

THINGS TO MAKE  
<sup>AND</sup>  
THINGS TO DO  
IN 1910

# Modeltown, an English Village



edited by Helen Hough

Excerpts from  
Arthur Mee's  
the *Book of Knowledge*  
and  
the *Children's Encyclopedia*

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James G. Collins & Associates  
Arlington, TX  
2018

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**<3 Jim, who has never been called Jimmy.**

**Two of my nephews, my sisters' sons, Jimmy and Max are professional firefighters. Part of this book is dedicated to them. I hope they can find out how part of the buildings in Section 16 was used professionally over 100 years ago. If you guys do, please let me know more about it. I'd love to know more.**

If you believe that this publication has some value to you, please consider donating what you think is a reasonable sum to some worthy purpose; even a tiny amount may make a difference. Some donations may also be tax deductible.

I suggest the following organizations:

The Antique Pattern Library project is an excellent opportunity to support access to publications similar to this one. This service provides scans of craft pattern publications that are in the public domain. Many are edited for modern craftworkers and their technologies, <http://www.antiquepatternlibrary.org/index.htm>

Good Shepard Services in New York City provides supports to vulnerable children and families. As an organization that grew out of the mission of a religious order, it seems an appropriate beneficiary of the various uses of this series of craft books, <https://www.goodshepherds.org/>

Donations to your local library or a community college scholarship fund are valuable local investments. Consider also Archive.org as it helps make many resources available to all of us.

I would be surprised if any organization returns even a nominal donation. -HH

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# **Modeltown, an English Village**

## **Things to Make and Things to Do In 1910**

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## **NO GUARANTEE**

I can provide NO assurance that all Modeltown parts will fit together neatly. I have not built the village nor any of the buildings. I suggest that one should be prepared to consider any of these projects as test trials and be willing to adjust measurements for the next effort.

## **MODERN MATERIALS THAT CAN BE USED**

Heavy cover or card stock should work well for Modeltown buildings. Look for paper weights close to 100 lb (270 gr/m<sup>2</sup>). Paper this thick is not likely to be printed on the average home printer but can be cut with scissors but using a hobby or utility knife along with a metal edged ruler will provide neater edges. Preparing folds by crushing the paper along the fold line may be easier than doing “half-cuts.” One of the easiest way to so this crushing is to press hard with a ball point pen down the line. A dried out pen that still has a rolling ball point is ideal. School glue will probably work fine to attach the pieces together.

If larger buildings are desired, consider products like thicker cardboards or thin foam-core. Since these are thicker, the little gluing tabs may not be needed but decisions about how to handle folds will have to be considered. Walls that can be folded using thinner paper may have to cut out as separate parts. Apply the glue to the raw edge and let dry to tacky and then butt the pieces together. These pieces will need to be physical held together longer to ensure the glue dries enough so the parts do not fall apart when they are put down. If necessary, consider using thin slips of regular paper with glue as a reinforcing tape. In some cases straight pins can be used as “nails” to hold parts together while drying.

## **SCALING**

Modeltown would be interesting to people who like miniatures in general, model trains, tiny dolls, and certain RPG table top games. While the patterns included in the encyclopedia were of varying scales, in part to teach children skills in mathematics, geometry, and following patterns, our current scanning and printing technology allows us to easily adjust the size of the Modeltown plans. The arithmetic used to change the pattern sizes with this technology is different but still valuable.

### **Modeltown Scale**

Modeltown is approximately 1/90 scale, very roughly HO scale.

Measuring the dimensions of a Modeltown “full size” interior partition that included a door frame, one finds the height of an interior wall is 1.1 inches (~28 mm) and the height of a door is about 0.9 inches (~22 mm). Door and wall heights vary slightly across the Modeltown buildings so any specific measure should only be used as an approximation. Given that current interior wall construction heights are standardized to 96 inches (2438 mm) and door heights to 80 inches (2032 mm), we can estimate that this Modeltown building itself may be about 1/90. See the Wikipedia article “Miniature figure (gaming)” for scaling to other gaming miniature sizes.

For example, since a popular building block has toy figures are 4 cm in height, creating these buildings for that toy would require all parts of Modeltown be made to Modeltown size and then doubled in all dimensions.

## **DUPLICATED PAGES**

The page with the rulers and excerpts are are duplicated across sections of this book to aid in individual pacing or for group work. If someone chooses to print out one section of this book at a time, it is easier to have all the needed pages together. One does not need to look through the entire book to find the needed parts of a page. If, for example, a group of people get together to build the village, each person would have all the available information at hand within a section and would not have to hunt for the “other” pages.

## WHY THIS BOOK?

If someone searches for information about Arthur Mee's *Book of Knowledge* or the *Children's Encyclopedia* one will find all sorts stories about people's childhood memories of reading these "old time" books. These encyclopedia are also occasionally mentioned in historical fiction. I too grew up with the first edition of the *Book of Knowledge* in my home. It was very old even then. It might have in my father's family and something he read in his childhood. We were told stories about how the understandings of culture, history, and aspects of science had changed since the publication of these books. Still, the articles were interesting, the information basic and often still valid. We had more current information source in our home and we could and would look at more than one resource when we did our school work.

Of the many books in my childhood home, as a young child my favorite was the *Book of Knowledge* because of the "Things to Make and Things to Do" articles. I found these articles enchanting. They were designed for people like me at that time, an elementary school child, and skill levels similar to mine, little or none. Many of the projects were things I knew better than to try because of how messy the ingredients could be. There was no way my mother was about to let children put books in the middle of ingredients that could spill and stain. It was also so unlikely that we were going to be permitted to use sharp knives to cut things that I did not even consider asking about doing some of the projects. Still I learned a lot from doing many of them – reading and following directions, visualizing the rotation of objects in space, being introduced to tools and techniques not common in my childhood environment, and so on. These handicrafts made a significant impact on what I became interested in and choices I made as I grew up.

I rather yearned to work on the Modeltown buildings. Alas, the instructions included the use of sharp knives and weird glues, both of which were not about to handed to child in my home. I used some of the Modeltown ideas in some of the craft miniatures I created later. Since that time, common school glue has improved and types of paper and card stocks have become more suitable for constructing the Modeltown buildings. Having an antique English village would still be fun to have. And now I may because I do not have to be concerned about soiling an entire volume of an encyclopedia. That and I can see if pages printed on card stock that can run through my equipment, including printing enlargements will work.

HH



## **Modeltown an English Village**

### **1. MAKE A MODEL TOWN** [How to make a model town]

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**Description**

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**pages 3-4**

### **References**

*Book of Knowledge.* (1911). v. 2, pp. 333-336.  
*Book of Knowledge.* (1921). v. 2, pp. 379-382; <https://archive.org/details/bookofknowledge02unse>  
*Children's Encyclopedia.* (1910). v. 1, pp. 105-108; [www.hathitrust.org](http://www.hathitrust.org)





## MAKE A MODEL TOWN

It is a very troublesome thing to build a real town, and it costs a great sum of money. There is the land to buy, streets to make, drains to lay, architects, builders, clerks, foremen, and workmen to pay. Then inspectors and surveyors come to see that the work is being done as they like. So that not many people have ever built a whole town alone. We will try to do so.

We shall be architects and builders as well. The ordinary builder does not make his plans. He may take the plans of the architect, and make his walls the sizes given him by the plans. But we must take the drawings given us and make new drawings for ourselves, the proper size of the houses we want to make.

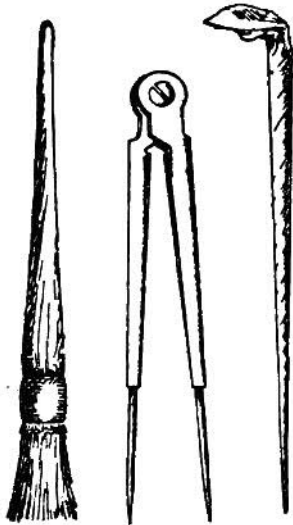
We shall learn here how to build a town — let us name it Modeltown. We shall not start as grown-up builders do, and our town will not cost very much either. Very little money carefully spent will give us the materials for houses, churches, shops, rail-way stations, fire stations, bridges, a grand hall, and all the belongings of a go-ahead town. It may be possible to find in your home most of the things needed — some cardboard boxes, a penknife with a nice sharp point, which is better than scissors, a gluepot, a pencil, a ruler marked in inches, and a pair of compasses or dividers.

But if you want to build the town very well indeed I will tell you what to get. For a foundation nothing is better than sheets of strawboard — the brown or yellow board which perhaps you would call cardboard. Our town can be made to stand upon a few sheets of this. If you cut one of these in half you will have a very nice plot on which to erect buildings. Some white cardboard, such as is used for mounts for pictures, will be the best material for the houses. Large sheets, enough to build a church or a museum and a few houses with. It will cost more if a thick quality is used. You will want a rule marked in

inches, with each inch divided into eight parts. You will have given you with Part 2 of this book a set of scale rules which you will find very helpful. You will also be told the meaning of scale rules and how to use them. You must have a pair of dividers, or compasses, to measure up the lengths of your walls. A cheap pair was bought — here it is in the picture.

Two set-squares will save you a great deal of time and setting out by compasses. If we do not buy these, we can learn how to make a simple instrument of the same kind in that part of our book, “Preparing for Modeltown”.

Builders use mortar and nails and difficult joints in woodwork to stick the building together, but we shall not want any such troublesome materials. Stickphast, seccotine [adhesives common long ago], or even gum will stick our house together. But far better than any of these is glue, and it is also cheaper. A small amount will buy enough for our city. Put some pieces of glue, broken small, into a jam-pot with a little water. Put the jam-pot into an old saucepan with plenty of water in it, and let it get very hot on the side of the fire or on the stove. Soon the glue will melt, and it must then be used hot. [White school glue would be much easier.]



Brush Compass Spill

For the larger surfaces it will be necessary to have a brush. The brush shown in the picture is quite large enough. But for the smaller slips which fasten the walls together this brush is too large and messy. Make some nice long, tight spills [rolled paper “sticks”] in the picture and use the points of these. They will do quite well. Do the work quickly, so that the glue does not set before you stick the surfaces together, and in a minute or so the wall will be fast. Other things may have to be held for some time to prevent slipping. You will want, of course, a lead pencil with a sharp point, and a knife also you must have. But what boy or girl is without a knife? Only, this knife, besides being sharp enough to point the pencil

cleanly, must have a sharp point to the blade, and the keener the point is the better it will be, for not only will you have to cut out the shapes from the cardboard, but some of the lines must be cut only half through, so that the cardboard will bend at a sharp and clean angle, but not come apart. It is easier to cut the shape out completely than to cut the line only half through, but we shall have to cut half through sometimes if we are to do our work well. So be careful with the knife, and get and keep a sharp, keen point. You must have, too, a nice, steady hand, or you will let the knife slip and spoil the plan or cut the ruler. Some of the buildings will have more than one floor. To support these against the side walls, we shall use small splinters of wood, glued to floor and wall. Now, I do not know whether you can be trusted with a box of matches, even safety ones. If your mother says "Yes," then get a box, cut off the striking head, and you have got all the timber you want. If you cannot have matches yourself, ask your father to prepare these for you; or, if you prefer to supply the wood yourself, get a bundle of firewood and you will find that most of the sticks will "splinter" into the necessary sizes. But take care not to cut yourself. If you make the pieces the size of matches, they will do very well.

We shall want our buildings to look well after they are built. Plain white cardboard by itself will never do. And this brings us to the color-box, fitted with its small cakes of students' colors. Indigo, French blue, black, Prussian blue, lake, light red, vermilion, gamboge, chrome, ochre, burnt umber and raw umber, burnt sienna, and Vandyke brown is a very good list of useful

colors. Get a small brush, of sable if possible ; or, if not sable, then one of camel's hair will do. The colors can be mixed on a white plate.

Then you will want a sheet or two of sand-paper of two different roughnesses, to imitate what the builders call rough-mortared surfaces. If you have to buy this, ask for one sheet number 0 and one sheet number 2. Another way, perhaps a better way, of making the walls look like rough stone is to paint them with thin hot glue, and to put dry sand on it at once. The sand will remain on the glue and look like stone. That for the present closes the list of things we need, and we may proceed to build. We shall finish each part of our town by itself. A house, a villa, a church, a shop, will each be separately built. It will never do to let these buildings stand anywhere to be knocked down or crushed, or to get dirty. A storage place must be found. A big box on the upper shelf of a cupboard would be capital.

Now, before we begin to make the first building in our town, we must have all our tools and materials in order, and ready at hand. Let us understand what they are:

- A sharp penknife, with a well-pointed blade.
- A pair of compasses.
- The scale rules given with Part 2.
- A lead pencil. Some paints and brushes and crayons.
- A gluepot and glue, or a tube of seccotine [white school glue will probably do].
- Two sheets of strawboard, to begin with.
- Two sheets of white cardboard, to begin with.
- Some wooden matches without heads.



## **Modeltown an English Village**

### **2. HOW TO BUILD SHAKESPEARE'S BIRTHPLACE**

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**Description**  
**Plans**

**pages 7 - 8**  
**page 9**

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#### **References**

*Book of Knowledge*. (1911). v. 2, pp. 334-336.  
*Book of Knowledge*. (1921). v. 2, pp. 379-382; <https://archive.org/details/bookofknowledge02unse>  
*Children's Encyclopedia*. (1910). v. 1, pp. 107-108; [www.hathitrust.org](http://www.hathitrust.org)



## HOW TO BUILD SHAKESPEARE'S BIRTHPLACE

We shall begin Modeltown with an easy house — a model of Shakespeare's birthplace at Stratford-on-Avon, one of the simplest houses, though one of the wisest men lived in it. We shall make this house without using the scale rules which we shall use in making most of the other buildings, as we shall begin in the simplest way possible.



Shakespeare's birthplace made in cardboard

The first thing we shall want is a piece of white cardboard, which must not be too thick, or it will be difficult to work with. We can make the four walls and the floor out of one piece. All that is necessary is to cut out the cardboard to the shape of the drawing 1 have made, shown in the picture [2], but you should make your drawing twice as large as mine. The best way would be for you to make a drawing of your own, taking care that *each line in it is exactly twice as long as mine*. You can do this with a rule and your compasses.

You will notice that one part of the drawing is marked "floor," two other parts are marked "end walls," and another is marked " back wall." By bending the cardboard you get the floor and all the four walls to fit together, so that they make the house without the roof.

To bend the cardboard you must cut it *half-way through* with the penknife, and the cut must not be on the side towards which you are going to bend it, but on the other side, so that you will bend the cardboard with the cut outside. In this way it will bend easily, whereas if you tried to bend it with the cut inside you would probably break it.

What you make is really a little box, with peaks on the top of the end walls, and more peaks where the three attic windows are. You will find it better to mark the black lines shown in pictures 7 and 8 before the cardboard has been folded up to make the walls, and while it is still flat.

The dotted lines show where you must bend the card (after cutting it half through). Do not bend the card too far or you will run the risk of breaking the card. Then you will find that the small pieces bent over from the end walls will touch the ends of the floor, and the pieces

bent over from the sides of the back wall will fit into the end walls. Now, using glue, or gum, or secotone, fix these pieces to the places they touch, and you will have a strong little box. This is the house without the roof. Paint the windows with light blue paint. You will easily know which are windows. They are shaded with tiny dots in picture 8.

Now we begin the more difficult task of making the roof. The attic windows make it more difficult, but it is not too difficult. First cut out a piece of cardboard the same shape as picture 1, but of course twice the size if you are making the house, double the size of the picture.

Having cut the cardboard the shape of the roof, now cut out two pieces of cardboard the shape of the drawing in picture 3, bend both the roof and the roof end pieces at the dotted lines, and glue or cement the end pieces underneath the roof; stick them near to, but not quite at, the ends of the roof. They must be put on so that the tops of the two end walls will come on the outside of the roof ends when the roof is placed on the top of the walls.

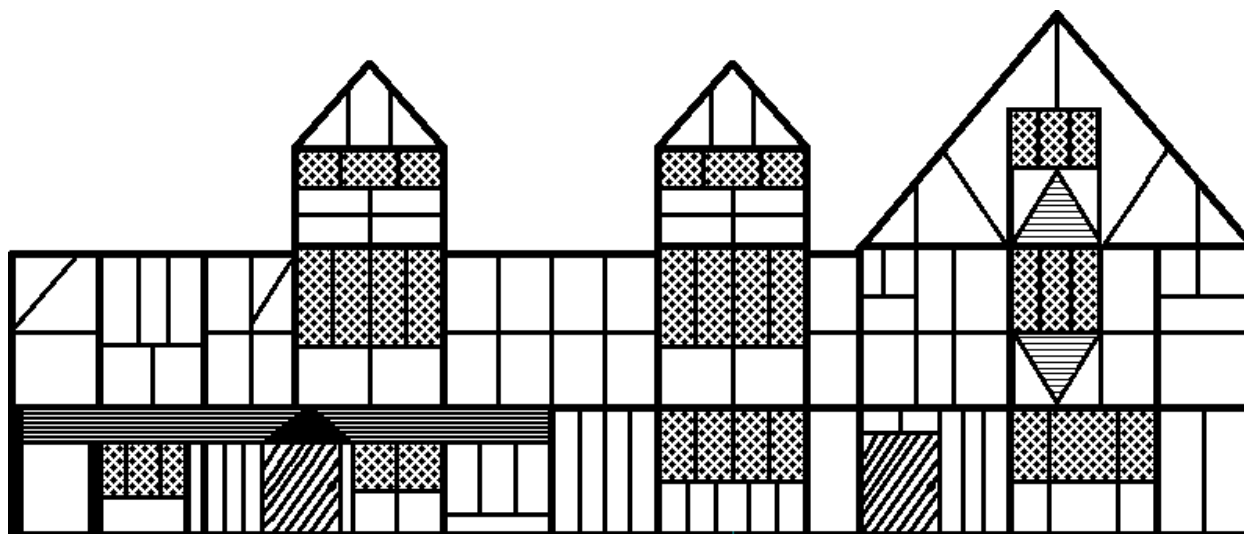
Now cut a piece of cardboard the shape of the large attic window. This shape is shown in picture 5. Don't forget to make it twice the size of the picture. It has three dotted lines. The line in the middle is where you bend the pieces down to form the ridge, and the other two lines must be bent in the opposite direction, which means that you must make the half-through cut on the under side of the cardboard. Now glue these pieces to

the roof, the two bent-up pieces going under the large roof. Having made and put on the part of the roof over the large window, it will be easy to make and put on two pieces for the two smaller attic windows, the shape of which you will take from picture 4. Both are the same size, and the shape is given. When the roof is made so far, paint it red. Get the tint like red tiles. Red ink will do very well. Put it on with a small brush, or with a feather.

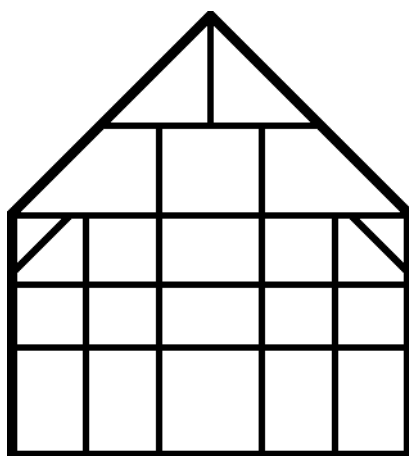
Now we come to the last thing — the chimney. Cut out two chimneys the shape shown in picture 6, but twice the size, and fix them so as to make two square tubes. Now double the two tails over towards the inside of the tubes. You will probably have to tie the chimneys with thread while the glue is setting hard, and you will do it better if you put a pencil or something else about the same size into the chimneys while they are

setting. Then glue the chimneys on to the roof, one in front close to the ridge on the right-hand side and the other about the middle, a little way down the back slope of the roof. The last picture [9] will show you where the chimneys should be placed. Paint the tops of the chimneys black, or make them black with ink.

We have now completed a little model of one of the most famous houses in the world, and by looking at picture 9 you will see what it ought to be like when you have finished it. You will notice, however, that we have not attempted to make the windows and the porch over the door, but have merely drawn these on the front. These things are very difficult to do until we have become very-clever at this work, but you may be able to add these exactly as they are with a little practice. The next building lesson, describing how to make more difficult houses and buildings



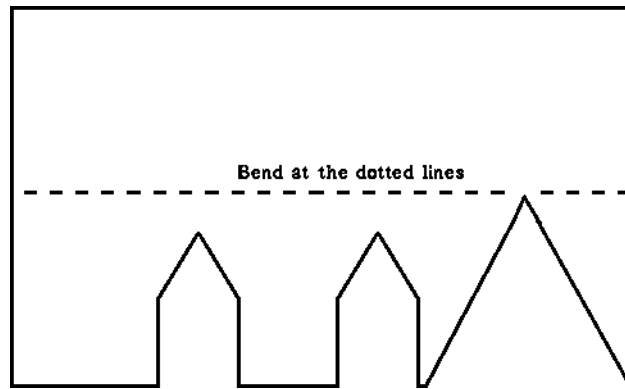
8. Markings for the front of Shakespeare's birthplace



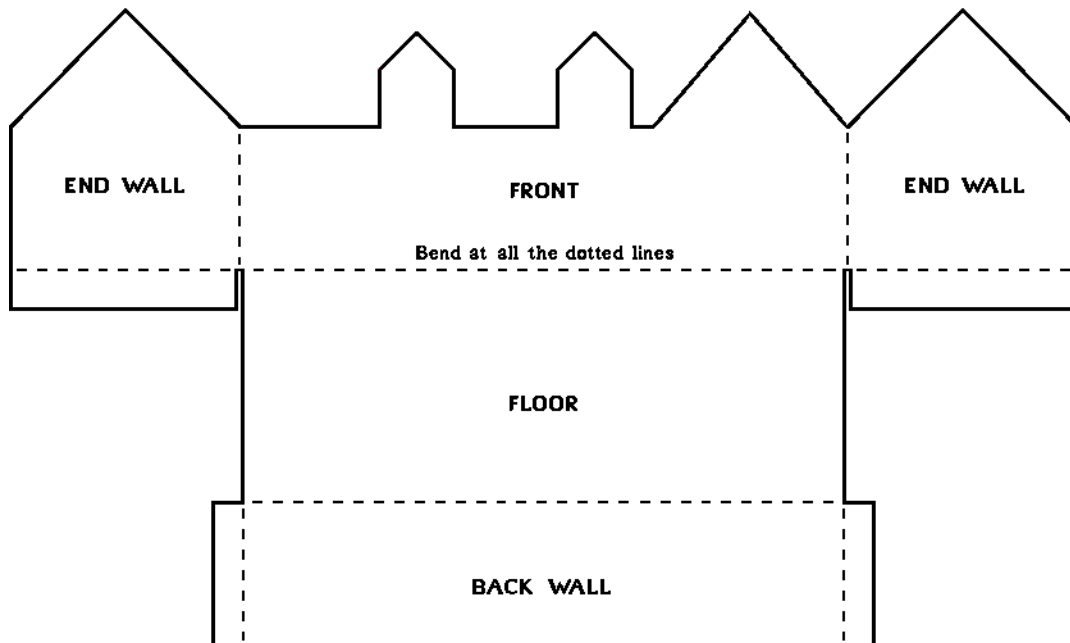
7. Marks for ends of walls of Shakespeare's house.



# HOW TO BUILD SHAKESPEARE'S BIRTHPLACE



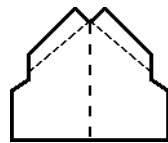
1. Plan for making the roof



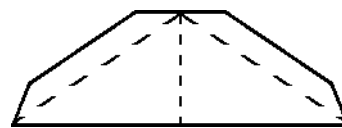
2. First plan for making Shakespeare's birthplace.



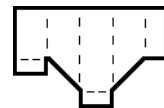
3. End of Roof



4. Top of small attic window



5. Top of large attic window



6. Chimney

Make all your lines double the length of the lines in these pictures.





## **Modeltown an English Village**

### **3. PREPARING FOR MODEL TOWN**

#### **How to Draw Angles and How to Make a Tray**

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**Description**  
**Plans**

**pages 13 - 15**  
**page 17**

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#### **References**

*Book of Knowledge*. (1921). v. 2, pp. 481-483; <https://archive.org/details/bookofknowledge02unse>  
*Children's Encyclopedia*. (1910). v. 1, pp. 217-219; [www.hathitrust.org](http://www.hathitrust.org)



## PREPARING FOR MODEL TOWN

### How to Draw Angles and How to Make a Tray

Before we begin in real earnest to set up the first buildings in Modeltown, which is to grow into a place of great interest as our busy fingers add to it from week to week, we have to know the meaning of "drawing to scale," and we have to make for ourselves a tray, on which to do our work. We have already learned how to use our tools, and we must now lose no time in putting them into use. Drawing to scale is too difficult for young people to do without help, so we have made specially for the *Children's Encyclopaedia* a very useful set of rules all on one piece of card, given away with this number. With the aid of this there should be no difficulty in carrying out our instructions. All will be "as simple as A B C." But, for all that, every young worker must be careful to study the instructions before attempting to use the rules. On the front of the scale rule everything that can be told about how to use these scale rules is clearly stated; so the best thing to do is to study these particulars attentively, and then try to make a tray with the aid of the scale rules.

Another thing that architects, engineers, and others who have drawing to do use in their work is the instrument called a *protractor*. The purpose of this is to enable the user to make angles of any size required easily and accurately. You can make your own protractor if you follow the instructions given and the illustration shown on this page. Take a piece of cardboard and draw upon it the illustration shown above. Do this this very exactly and make it neat, with all the lines exact and clear. Use the compasses to make the half circles and your ruler to make the straight lines. It will do nicely if you make it the exact size of the picture, and put in the figures as shown in the illustration. You will find the work much easier if you trace the picture, which is a very simple thing to do.

Take a piece of tracing-paper, or strong tissue-paper, and place it over the picture. You can see the lines of the illustration through the tracing-paper. Now take a lead pencil with a good sharp point and draw on the tracing-paper the picture beneath, going over each line carefully. When the drawing is complete, take the tracing-paper and

put it on the cardboard which you are going to use to make the protractor. Now go over the lines again with a sharp pencil, and this will make marks on the cardboard where the lines go. You had better go over these marks with ink, and when you have done this you should have made on the card a drawing similar to the picture on this page. Then you can cut out the drawing neatly, and you will have a handy little protractor, which you can use in making angles, or slanting lines, as you draw the plans for Modeltown. We shall now see how to use the protractor. Suppose that we wish to make an angle of  $30^{\circ}$  from a certain point on a line. Put the protractor with the lower, or straight, edge on this line and with the center point of the protractor — marked by a dot on the straight line — touching the point at which you wish the angle to be. Make a slight mark there. Now look at the outer edge of the protractor — to the right or left, according to the direction in which you want the line — and see where it is marked 30. Put a slight mark on the card, or paper, on which you are drawing, at the far end of the line numbered 30. Remove the protractor. Now, if you draw a line between the two marks you have made, from where the center point touched to where the figure 30 touched, you will have made an angle of  $30^{\circ}$ .

Degrees are indicated by a small circle after the number, like this —  $30^{\circ}$ .

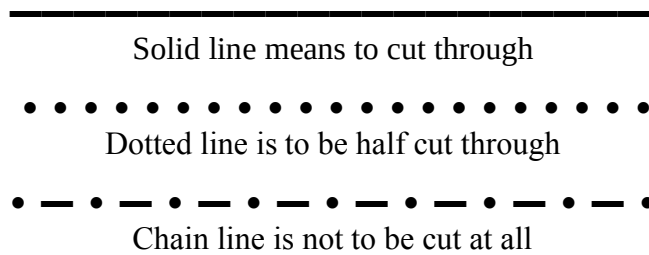
You will observe that the protractor has two lines marked  $30^{\circ}$ , and that all the other numbers given, except  $90^{\circ}$ , also appear in two different places. This is because you may have to make an angle to the right side or to the left side; but the position of the angle has nothing to do with its size. This will show what is meant.



Each of these angles, or corners, is  $30^{\circ}$ , although they point to opposite directions. The highest number on the protractor is  $90^{\circ}$ . An angle of  $90^{\circ}$  is called a right angle; it is one of the corners of a

square. If it is more than 90° it is more than a right angle, and is called an *obtuse* angle. If it is less than a right angle it is called an *acute* angle.

Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:

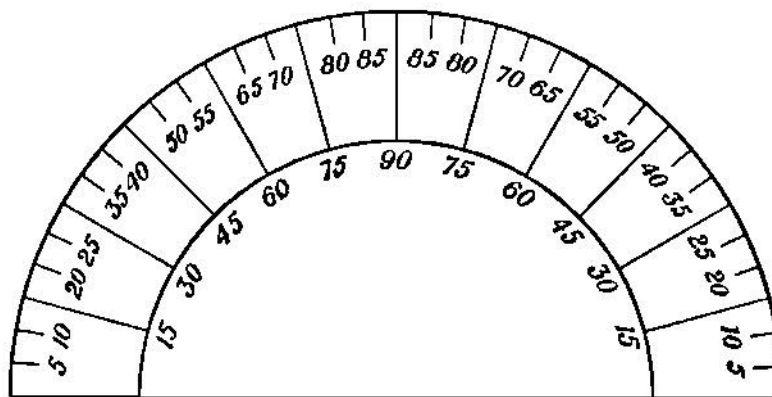


The first is an ordinary solid black line, and whenever we find this line in a plan it means that the card- board is to be *cut clean through* at that

place, and any cardboard detached by the cutting is to be removed. The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge. The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.

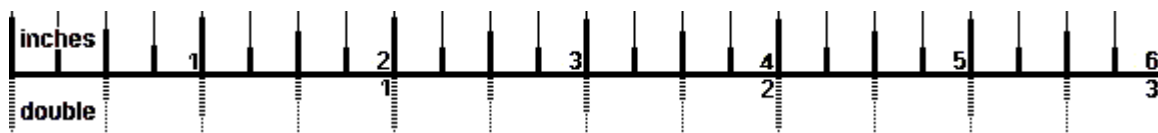
These are simple things to bear in mind; and having learned how to use our tools, how to make angles, how to use the of scale rules, and what the three kinds lines mean, we can set to work at once.

## Protractor:



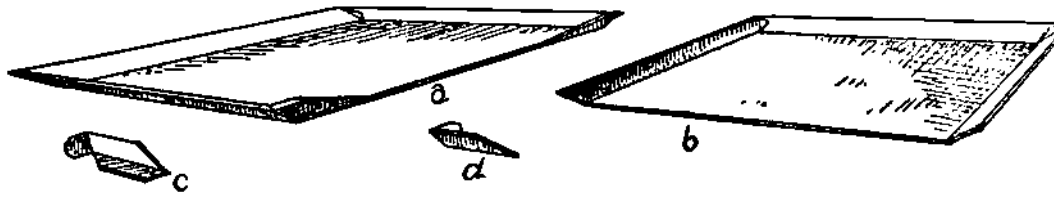
## Ruler:

1 inch rule & doubled





## Making the Work Tray



These pictures show (a) a complete tray exactly as it should look if you make it according to the instructions, (b) a tray before the corners have been added, (c) the corner to be glued on the right and (d) the left corner.

A work-tray is a good thing to try our hand on, as it is made in the same way as the cardboard houses, only, of course, it is much easier to make. But it is also very useful. The best kind of tray to make is one with three of the sides turned up and the fourth side left flat, but with corners added to it, as you will see shown quite clearly in the illustrations below. These corners and the turned-up edges will prevent tools falling off the tray, while the flat edge allows the young worker freedom to build up his models on the tray, and to sweep off fragments and dust.

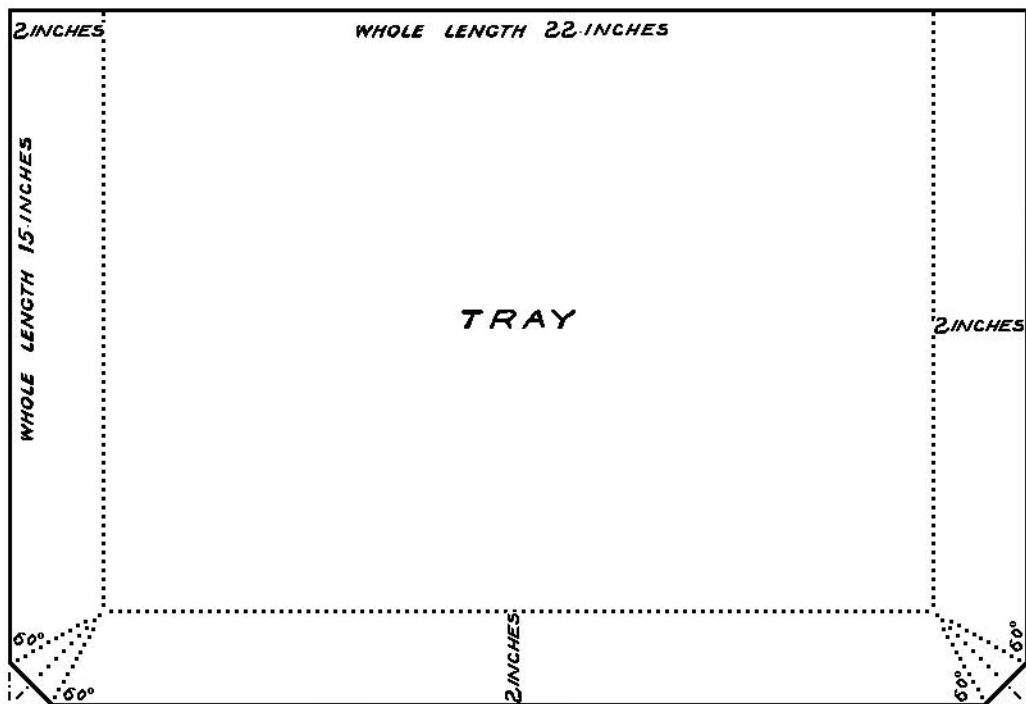
The plan of the tray which we print is marked with the sizes to which you ought to make it, and if you follow these sizes you will have no difficulty in making a thoroughly strong and useful tray to work on. The material we have to get for our tray is called strawboard, and we shall require a piece 15 inches by 22 inches—certainly not less than this, as that is the exact size to which the tray is to be cut. Having got the strawboard and cut it to this size, the next step is to draw upon it in pencil exactly the same plan as we give, and, of course, leaving out the words and figures, which are intended only as guides.

On looking at the plan you will notice that 2 inches along the back and sides are allowed for the turned-up edge. Notice, also, that at the two back corners there are solid black lines, which have to be cut right through. Then at each of these corners there are also dotted lines, and 2 inches within the back and 2 inches within the two sides there are again dotted lines. As already explained, these dotted lines indicate that the strawboard is to be cut half through at these places and bent back from the cut. The inner angles at the corners are  $30^{\circ}$  — that is to say, in order to make your

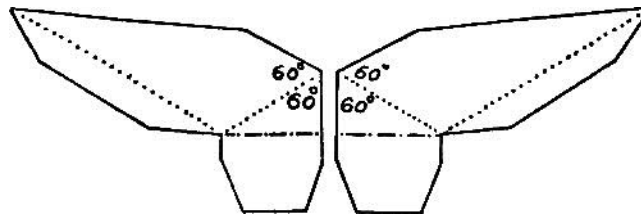
plan exact you should make the angle  $30^{\circ}$ , as already explained. Exactly in the middle of the corner a solid line is shown, running from the angle to the outer edge. This is to be cut through entirely, and the strawboard here, where the edges have been turned up, should be made to overlap until the dotted lines have been brought together, and then glued where one edge goes beneath the other.

To complete the tray you have only to cut out from any odd piece of strawboard the two corners, of which diagrams are shown. Make these four times the size of the drawings of them and you will find that they will fit the front corners of the tray—one on each side. That is to say, in measuring the drawing you will use scale rule D, and in making your lines on the card you will use your full-sized rule. Cut these pieces half-way through at the dotted lines, and glue the pieces on, one end under the tray and the other on the side of the tray. These instructions, which should be quite clear to you, will enable the young worker to provide himself with a most useful article for the task of modeling on which he is about to engage.





The working tray for making Modeltown: to be made according to the sizes marked

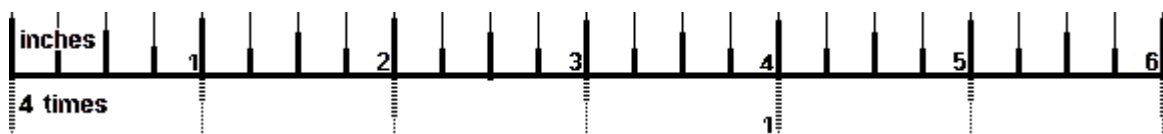


Corners for the tray: to be made 4 times this size

—————  
Solid line means to cut through

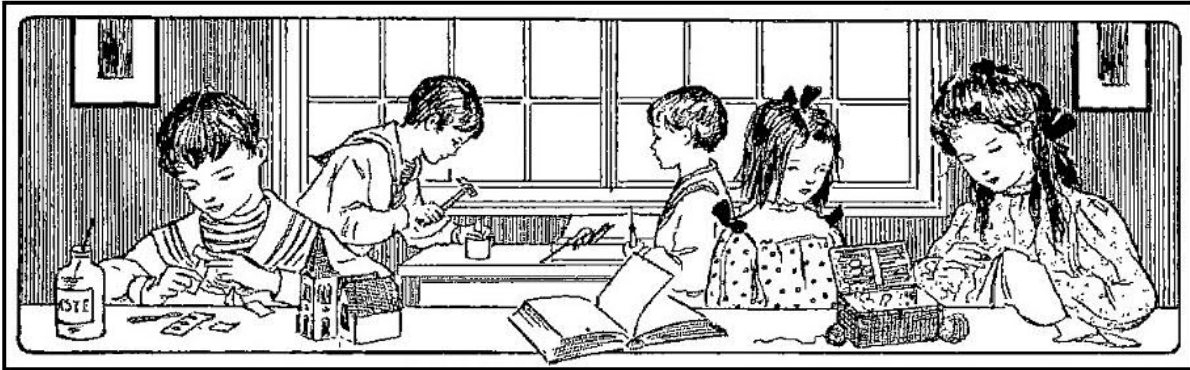
.....  
Dotted line is to be half cut through

• — • — • — • — • — • — • — • — • —  
Chain line is not to be cut at all



Four times ruler showing how one inch in the diagram would enlarge.





## **Modeltown an English Village**

### **4. A ROW OF COTTAGES FOR MODELTOWN** The Way to Make These Clearly Described

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<b>Description</b>	<b>pages 21 - 22</b>
<b>Plans</b>	<b>page 23</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 25</b>
<b>Scale-rules</b>	<b>page 25</b>

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### **References**

*Book of Knowledge*. (1921). v. 2, pp. 480, 483-484; <https://archive.org/details/bookofknowledge02unse>  
*Children's Encyclopedia*. (1910). v. 1, pp. 216, 219-220; [www.hathitrust.org](http://www.hathitrust.org)

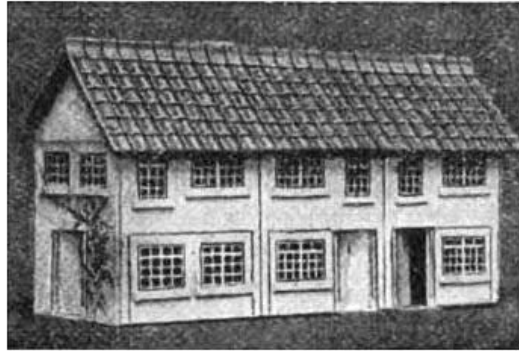




## A ROW OF COTTAGES FOR MODEL TOWN

### The Way to Make These Clearly Described

We should now be in a position to begin in real earnest the making of Modeltown. Each worker may have his own idea as to where the different buildings ought to go, and for that reason we will not at present lay down plans for the whole of the town, but will rather proceed with the making of the different buildings it ought to contain. The day will come when we shall have to think



about setting up a town-hall, a church, and a railway-station; but before all these great works can be undertaken we must suppose that the population of the town is growing, and houses must be provided for the people whom we might suppose to be engaged in putting up the principal buildings if Model-town were in reality a town of bricks and mortar inhabited by living people. A row of cottages is very necessary, and the next thing ought to be a schoolhouse, which might be used on Sundays for church service. This, at any rate, is a very good start, and many a great town has begun with just a few cottages and a schoolhouse, so that Modeltown need not be ashamed of this small beginning.

As the first concern everywhere is a house in which to live, let us at once turn our attention to this neat little row of cottages we are going to erect for the working people of our town. You will see that our architect has prepared for us an excellent set of plans, which will enable us to put the building in hand immediately. In picture 4 we have a row of three cottages, two with doors in front and one with its door at the side; but each has also a back door, which is not shown in the same picture. Look carefully at the picture on page 220, for it shows what the result of our work will be like. While you are making this row of cottages, you can compare the work with the picture, and, if you are not doing it quite right, you will perhaps see where you have made a mistake before you have gone too far. Remember that in building houses, as in everything else, a mistake should be put right as soon as ever possible after it has been made.

Now look at the *plan*, as we call the large picture which gives us all the sizes of the card we must cut. It is shown in picture 3. The whole building, except the two chimneys, is cut out of one piece of cardboard. The piece of card that you use must be not less than 10 inches wide and 11 inches long. You will first draw the plan on the card, making it twice as large as the drawing on the page — that is to say, you will measure the lines on the picture with scale rule marked B (the half-scale rule), and you will make your drawing on the card with your full-sized rule. You must remember, also, the meaning of the three kinds of lines — the lines that are black and continuous must be cut quite through with the pen-knife, the lines that are made of round dots must be cut

half through, and the chain lines made up of dots and dashes must be marked on the card only, and not cut at all. You do not require to write or print on the card the words that are in the picture. They are intended merely to serve as guides when you come to fold up the card after it is cut out, and to give you an intelligent interest in what you are doing.

Make the plan on the card complete before you begin to cut it out. You must be careful to make the angles on the drawing exact, because a look like picture very little error at the corner may make a very big error at the other end of the line.

When you cut out the plan, do not use scissors, as they would make uneven edges. Do the cutting with a penknife, being careful to have it sharp, so that you may make clean cuts. Also, be careful not to put your fingers in the way of the point as you are using it. After you have cut through all the black lines, cut the dotted lines half-way through. You may find this a little awkward at first, because it is not easy to put upon the knife just sufficient pressure to cut the card through just the right distance; but a little practice will soon enable you to do this part of the work properly.

Now let us suppose that we have got the plan cut out and all the lines cut half through that require to be treated so. The next thing is to do the bending. The card must be bent over at all the line" that you have cut half-way through. Now you see the reason for cutting half-way through at places. It enables the bends to be easily made and makes straight bends. If you bend a piece of card without having cut it half-way through, you will see how uneven the bend is, and why we must help our bends with half-cuts.

As you bend up the card you will find that it begins to have the shape shown in picture 5. You will find that the narrow strip marked A goes behind the end wall C of the cottages, that the slip marked B fits in behind the back wall and that D folds up with- in the other end wall marked E. Now we begin to use the glue. After you have prepared it properly, as already explained, you put just a touch on the different slips that fold behind the walls and hold them a minute, until the slips stick fast to the walls which they touch. Look at the next picture—that marked 6. It shows how our building will look just before the roof has been glued down, and with the end wall left open like a door. If you like, you may leave one end unglued, and thereby allow the end wall to hinge open. This will enable you to look inside the house when you want to, and will allow you to put in furniture if you should desire to do so at a future time.

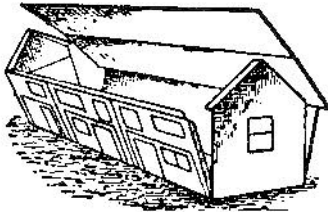
All that remains now is to make the chimneys and fit them on. Pictures 1 and 2 give the plans of the two chimneys. They will be very easy to make because the size in the book is the actual size; you do not need to use two rules in taking the measurements, but one only, the full-sized one. Indeed, you may trace them if you know how to do this. Having drawn the two chimneys on card, you will cut them out and then glue them up, when the parts marked X will be glued to the other ends. Before gluing they will 7, and after gluing, and before sticking them to the roof, they will look like picture 8. Then you will glue them to the roof in the right places as marked on the plan, applying glue to all the four turned- up slips at the bottom of the chimneys. This completes our cottage unless you choose to decorate it with a little paint.

Red paint on the roof will give us a very neat representation of a row of tiled cottages, or making red walls and painting the roof with a mixture of blue and grey will give us brick cottages with a slate roof. Having made one row of cottages you may make as many more as you like, and the number of cottages in Model- town will be limited only by your skill.

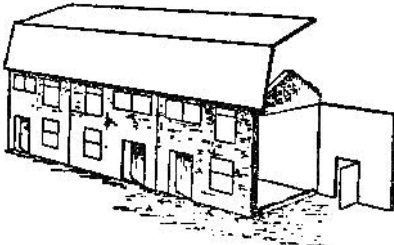
If you have painted your row of cottages nicely to look like a real little model, it should appear as seen in picture 9, which is made from an actual photograph of a building made as we have described from the plans and instructions given above. It has what looks like a rose tree growing up the side of the end door. This was merely drawn and painted green, but it adds very much to the general effect. The windows also were painted blue to resemble glass, and the roof was colored to look like tiles. In the next lesson we shall see how to make a schoolhouse.

## NOTES

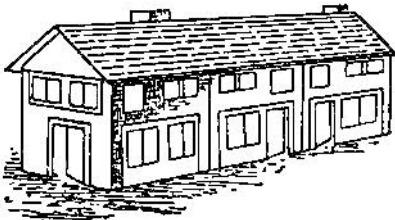
5 The cottages as they appear before gluing and after the cardboard has been cut and bent up.



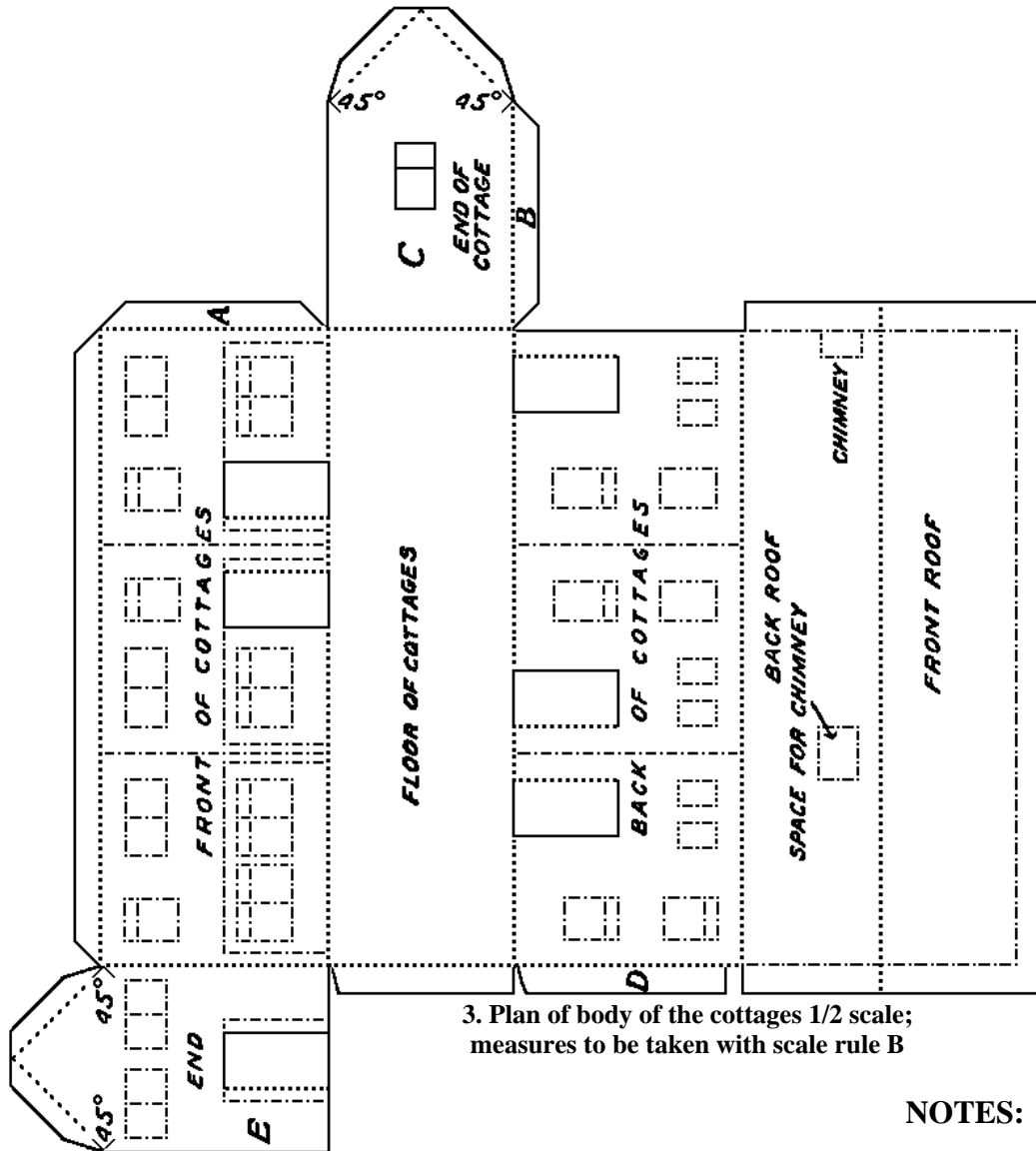
6. Cottages when gluing is nearly complete.



4. Design of the Modeltown cottages.

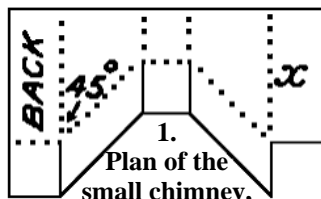


# PLANS FOR A ROW OF COTTAGES IN MODELTOWN



3. Plan of body of the cottages 1/2 scale;  
measures to be taken with scale rule B

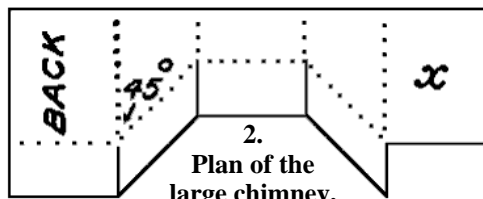
NOTES:



1. Plan of the small chimney,  
to be made the same size as this.



7. Chimney before gluing.



2. Plan of the large chimney,  
to be made the same size as this.

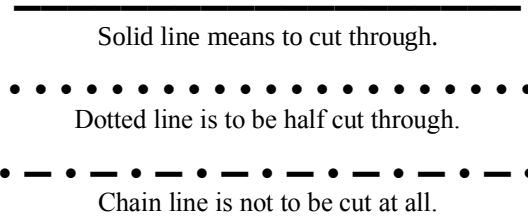


8. Chimney after gluing.



### Excerpt from “PREPARING FOR MODELTOWN”

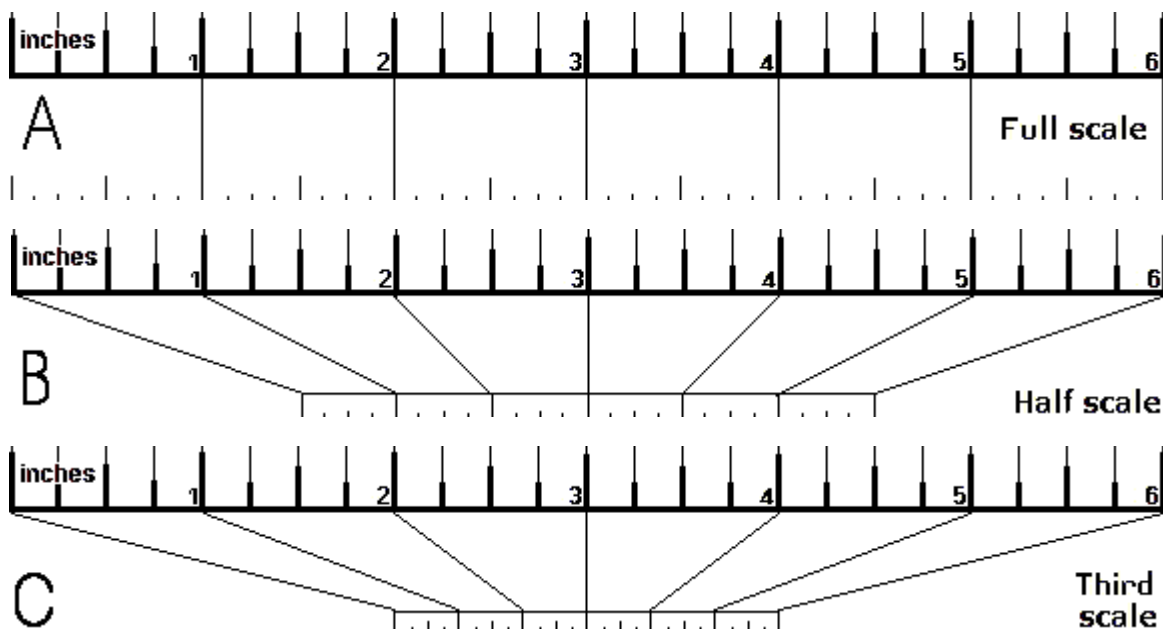
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







**Modeltown  
an English Village**

**5. SCHOOL FOR MODELTOWN**

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<b>Description</b>	<b>page 29</b>
<b>Plans</b>	<b>page 31</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 33</b>
<b>Scale-rules</b>	<b>page 33</b>

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**References**

*Children's Encyclopedia.* (1910). v. 1, pp. 322-324; [www.hathitrust.org](http://www.hathitrust.org)





## SCHOOL FOR MODELTOWN

In the families who will live in our cottages there are sure to be children, and the education of the children must be attended to. If it were not, they would grow up quite unable to read the *Child's Encyclopaedia*, as you are doing, and that we can never allow. So we shall build a school. Look at picture 4, on the opposite page, and you will see the sort of school we shall build.

It will be small, just large enough to suit a small village; and as the village grows we may, perhaps, build a larger school, with many class-rooms. The first step is to make the plan of the school, as shown in picture 2. This plan is made half-size, so that in drawing it on your card you must make it twice the size of the plan—that is, take the sizes with scale rule B and draw them with the full-sized rule. You know all about what the different kinds of lines mean by this time, so that we need not tell you here, if you have forgotten, look back to the last lesson, and you will find what they mean. The piece of card you use must be at least 11 inches long and 8 inches wide.

After you have drawn and cut out the plan on your card, bend it up at the dotted lines and glue the edges into position. Then draw and cut out the chimney, which is one of the long, old-fashioned sort that go right from the ground to the roof. The plan of the chimney is made in picture 1 full size, so that you use only the full-sized rule both for measuring the picture and for making the drawing. When it has been cut out and the half-cuts made at all the dotted lines, bend it round, and the side marked **G** will go behind the other side, thereby making a chimney almost square, but a little broader than it is deep from back to front. Glue the side marked **G** to the end behind



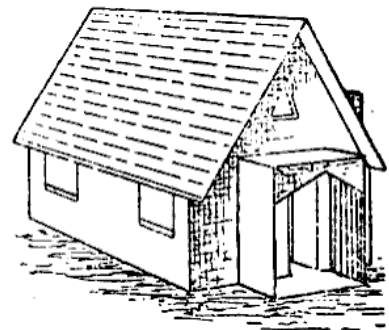
which it goes, and after it has become fixed in this position it is ready to be attached to the wall of the school. You will find a place in the plan of the building where the chimney is to be put. Attach it with glue and hold it for a minute while the glue is setting hard. Then it will remain in position securely.

There remains only the porch to be made and attached. The plan of it is also made full size in picture 3. Draw it on the card, cut it out and glue it into shape, all in the manner you have already followed with the chimney. You will find that the front is made to hang down a little from the top, and the ends of the front, where they are marked **ff** on the plan, go within the sides of the porch and must be glued to it. Picture 6 shows the porch before the gluing has been done, and its position after gluing it together and gluing it to the front of the school is shown in picture 4.

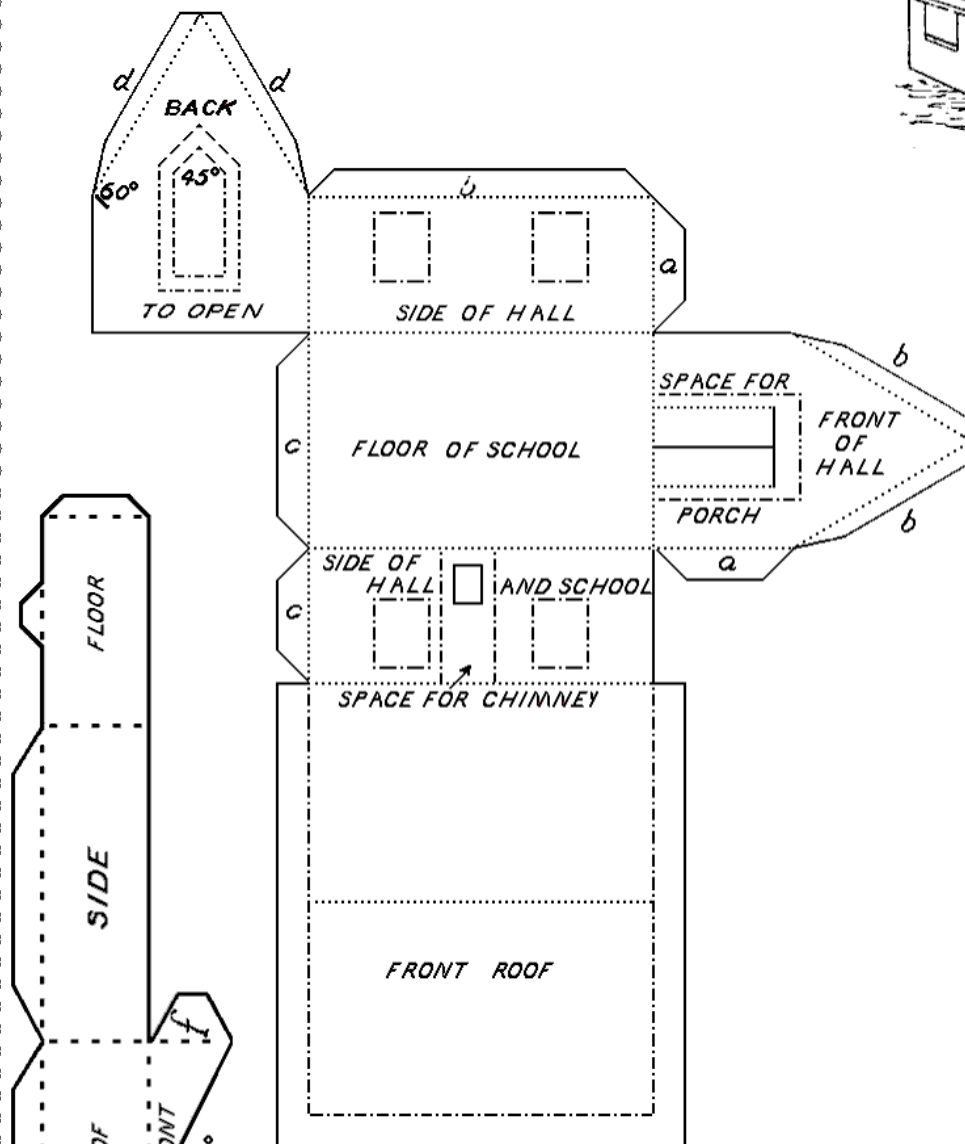
Our school is now finished, except for any little painting that we may care to give it. We may make the roof red to imitate tiles, and we might hot glue and put on some clean, dry sand at once, before the glue has become hard. Then we shall have a neat little model of a granite village school. The picture on this page is from a photograph of a tiny school made from these plans and afterwards carefully painted so as to be as neat and realistic as possible. There is no reason, why we should not all make such neat little buildings as these. It is well to glue little pieces of cardboard on for window-sills and for the edges of the chimney, as was done in the school on this page and in all the buildings photographed for this book.



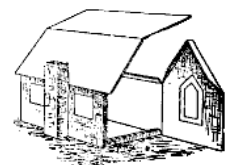
# PLANS FOR THE SCHOOL OF MODELTOWN



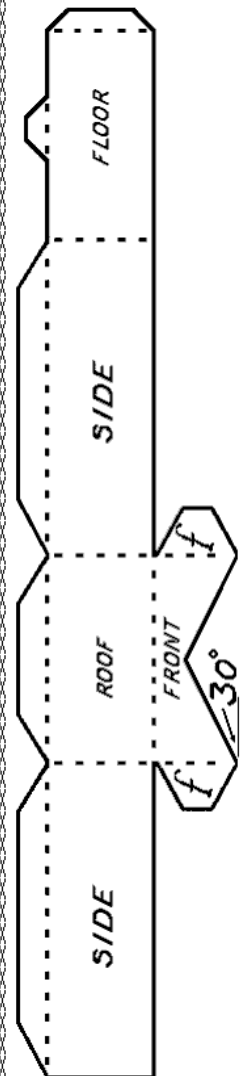
4. Design for the school.



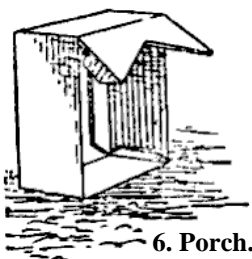
2. Plan of schoolhouse – ½ scale.  
Measurements to be made with  
scale rule B



7. School nearing  
completion.

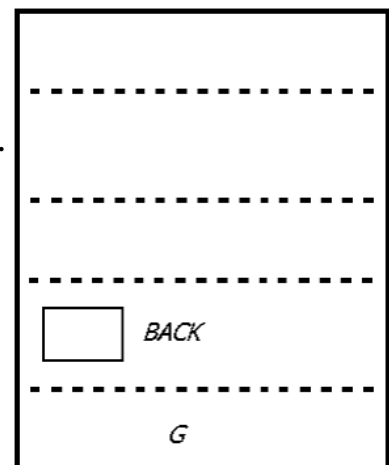
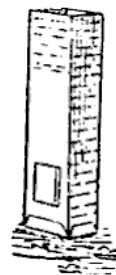


3. Plan of the porch, to  
be made this size.



6. Porch.

4. Design for the school.

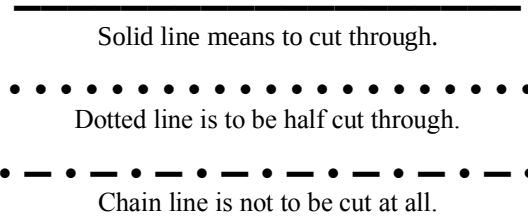


1. Plan of chimney,  
to be made this size.



### Excerpt from "PREPARING FOR MODEL TOWN"

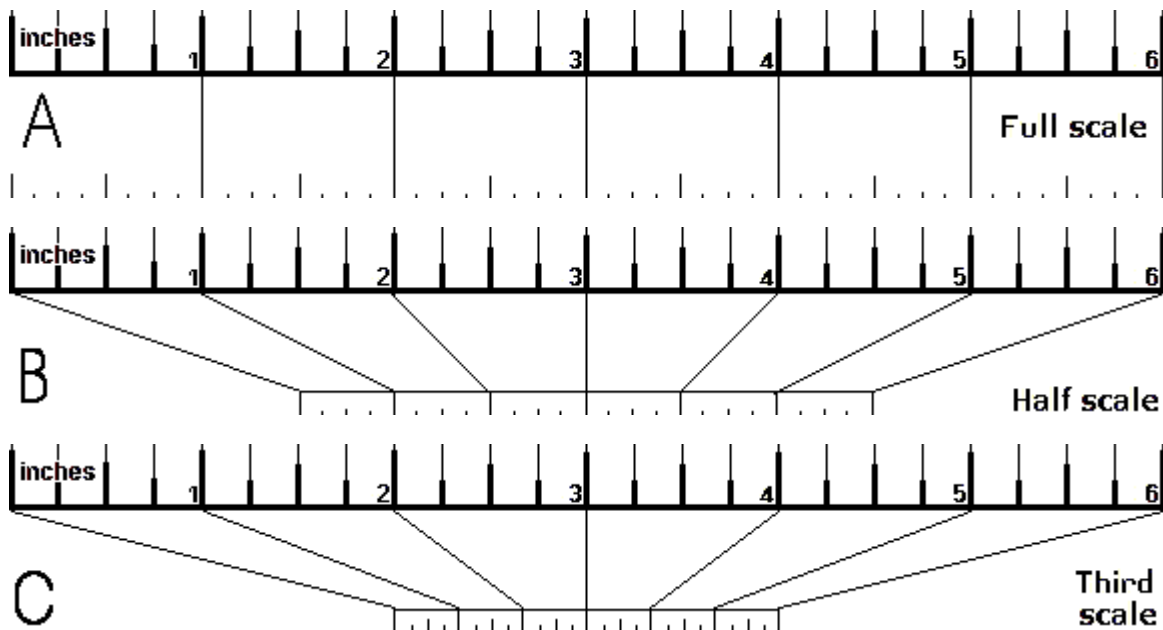
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



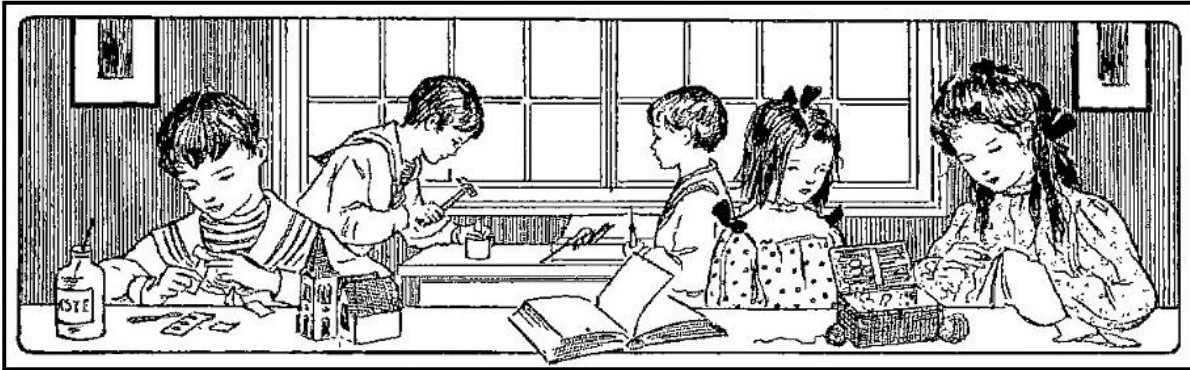
The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







## **Modeltown an English Village**

### **6. MAKING SHOPS FOR MODELTOWN**

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<b>Description</b>	<b>pages 37 - 38</b>
<b>Plans</b>	<b>page 39</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 41</b>
<b>Scale-rules</b>	<b>page 41</b>

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#### **References**

*Book of Knowledge.* (1918). v. 3-4, pp. 614-616; <https://archive.org/details/in.ernet.dli.2015.53236>

*Book of Knowledge.* (1921). v. 2, pp. 614-616; <https://archive.org/details/bookofknowledge02unse>

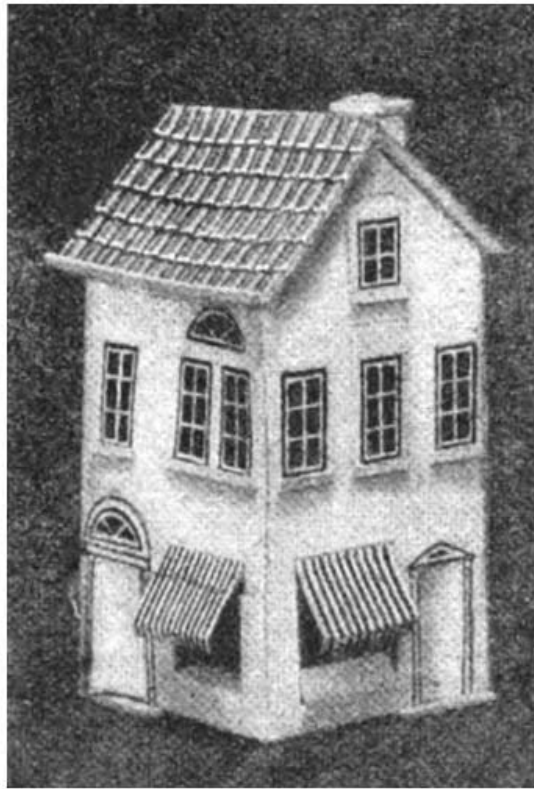
*Children's Encyclopedia.* (1910). v. 1, pp. 444-446; [www.hathitrust.org](http://www.hathitrust.org)





## MAKING SHOPS FOR MODEL TOWN

The first sort of shop in a small town is always a grocer's shop. Have you ever thought why this is? Perhaps you have never thought about it at all. The reason is that people buy things to eat every day and sometimes several times a day. We do not buy a pair of boots or a hat very often, so that if we live away from the shops where such things are sold it does not matter much. But it would be very inconvenient if we had to go far for the sugar, tea, and flour that we need every day. That is the reason the grocer's shop is always the first shop to be opened in a village.



So that we will first make the grocer's shop. By this time we are familiar with the method of making the plans on the cardboard and of cutting out the shape and gluing the pieces together, and we need not, therefore, be told how to do every little thing as we were in the earlier lessons. We have now learned to think things out for ourselves, and to be able to see what to do from the plans and pictures without all the simple explanations. The first picture (1) shows us what the grocer's shop will be like when it is finished. Notice that it is a corner shop, with two windows on the ground floor and with two doors. The two windows look into different streets, and that is why a corner shop is always thought to be better than a shop with two windows looking into the same street. A corner shop is always better seen than a shop with a front in only one street, and every shopkeeper, whether he is a grocer or not, wants his shop to be well seen. One of the doors in the grocer's shop front is the shop door. The other door leads to the house above, where the grocer lives.

Having an idea of what we are going to make, let us now begin to make it. The big plan, which is

marked 4, must be very carefully drawn on card twice the size of the plan in the book. This is to say, we use rule B to take our measurements with, and the full-sized rule to mark the sizes on the card.

This will need patience and care, and must be done exactly. We must remember, of course, the meaning of the three different kinds of lines in the drawing, which were explained in "Preparing for Modeltown". But one thing more must be explained.

There are a number of half circles in the plan, which may seem difficult at first, but which we can easily make the proper size in our drawing by placing a coin on the card in the proper place and drawing round it with our pencil.

There are a few places in the plan where crosses like this X are marked. Make these crosses on the model and pierce the center of the cross with a pin or a needle. These are the places where the inside floors are to be put, as we shall see presently. Having made the large plan, cut out the card, as we now know how to do, bending it over at the dotted lines — *not at the chain lines, remember* — and fold it up to make the frame of the building. It is easy to see where the edges should be glued together, so that we need not go over all these one by one. We must make the back of the shop to open, so as to enable us to put in the inside floors and walls afterwards. Picture 8 shows how the frame of the building is bent up in the proper way, and will guide us if we have any difficulty in doing this. Now we glue to the inside walls, just above the holes we made in the center of the crosses, some small slips of wood, such as matches without heads. When these are firmly in place, we make and cut out the cards to form the

floors as shown in pictures 5 and 6, making them to double scale. Now we make and put in the two partitions shown in pictures 2 and 3, making these also to double scale. The bottom picture (9) shows where the partitions should go, and on the ground floor and the first floor in the plan is a dotted line also showing where the partitions should be placed.

We finally make and cut out the chimney, the plan of which is given in picture 7, making it the same size as in the picture, and glue it into its place. The whole building should now look like picture 9, with the floors and partitions in their places and with the back wall opening. If we have cut the doors properly we shall find that they can be opened and closed, the side at the dotted line forming the hinge. The two shop windows are cut in a peculiar way. Fold the under parts back into the shop, and these will form the two window-sills. Now bend the top parts outwards, and they will represent sunshades, protecting the things in the window from the heat of the sun.

The building is complete, and now we have only to color it to take away its cardboard appearance. On the page before this there is a picture of a little shop made from the particulars given and afterwards photographed. The blinds were painted with red lines, the roof was painted with dark brown lines filled in with lighter brown to resemble tiles, and the windows were colored dark blue. Around the door, pillars were drawn and also colored brown, and the semicircular space above the door was made to look like a window.

Now we have made our first shop. From the same plans we may make a few more, and erect a little row of them. We must make the others without the side windows, as they will have one front only, and cannot face into two streets. This will not be difficult if we are the least bit clever.

The next thing to do, however, will not be so easy. Suppose we make a corner shop for the other end of the little street, just like the corner shop we have already made, but make it the opposite way — that is to say, with the side windows and the door at the right side instead of at the left side. This is a task that will show if we can think things out for our- selves as well as follow plans and instructions given.

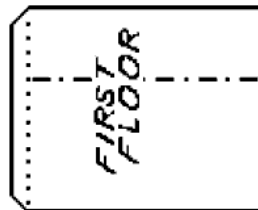
We can make as many shops, of course, as we want in our little town; perhaps we might make seven altogether — one for the grocer, and one each for the butcher, the baker, the shoemaker, the draper, the iron-monger, and the chemist. That will be enough for a small town. But when all the smaller shops are doing a good business, very often a large store comes along and opens a much-bigger shop, selling nearly all the things that all the other shops sell.

Our next task will be the erection of a larger shop than that we have just made.

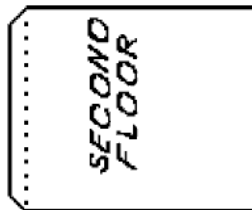
# PLANS FOR THE SHOPS OF MODEL TOWN



1. Corner shop for Modeltown

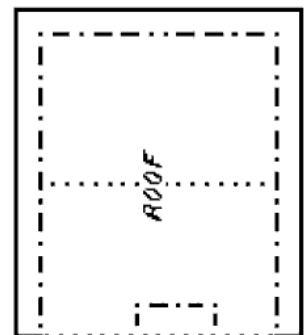


5. Plan of first floor

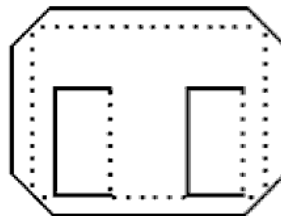


6. Plan of second floor

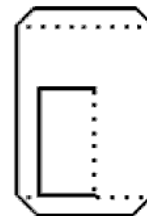
half scale – use rule B for measurements



ROOF

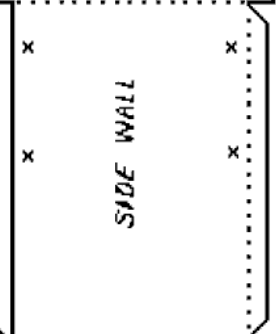


2. First floor partition

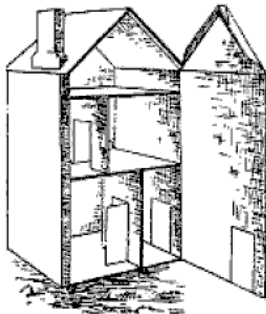


3. Shop partition

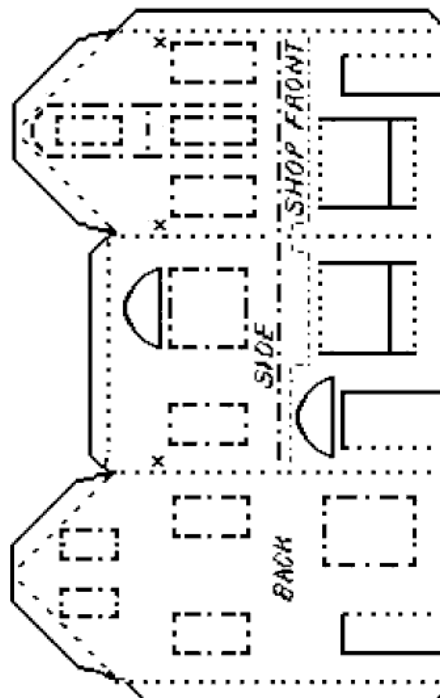
half scale – use rule B for measurements



SIDE WALL

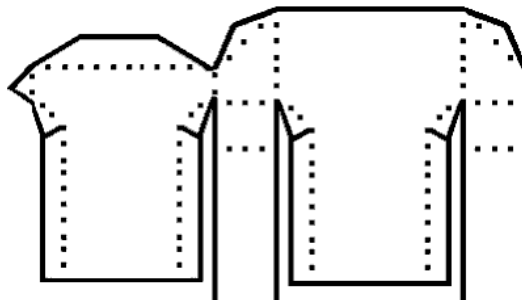


9. The shop with partition walls

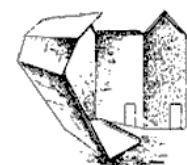


FLOOR OF SHOP

4. Plan for Modeltown shops – half scale – use rule B for measurements



7. Plan of chimney  
Use same size

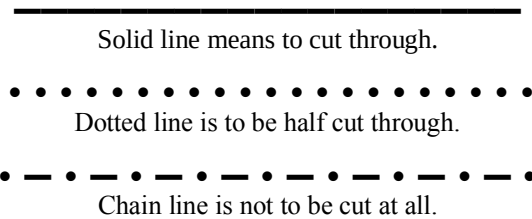


8. Folding up the shop



### Excerpt from “PREPARING FOR MODELTOWN”

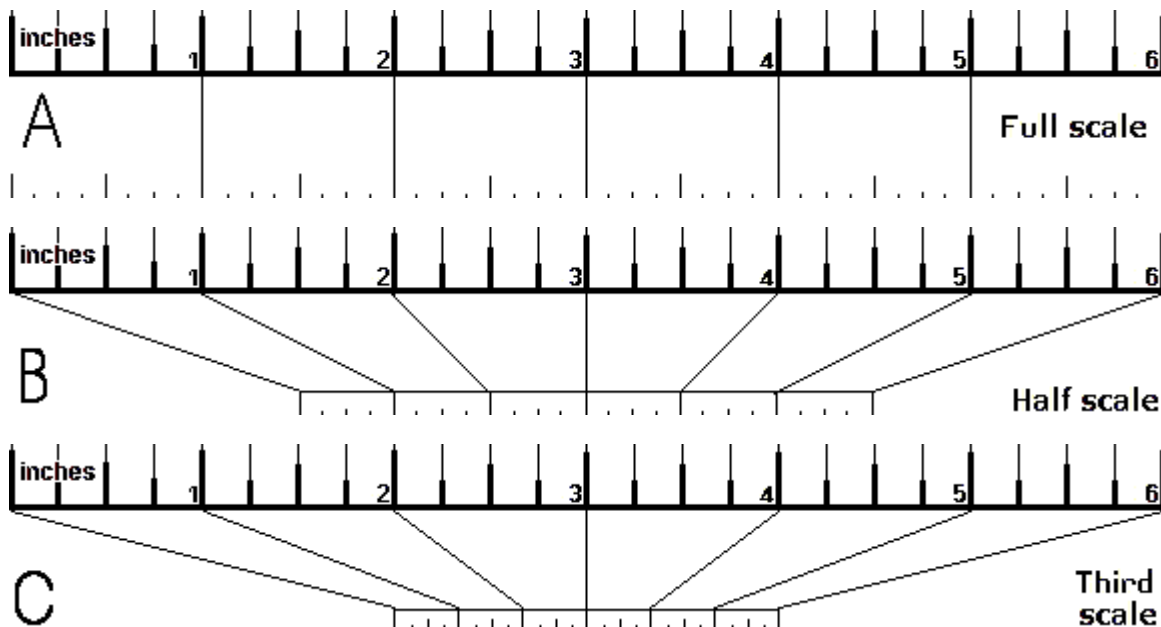
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







## **Modeltown an English Village**

### **7. A LARGE SHOP FOR MODELTOWN**

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<b>Description</b>	<b>pages 45 - 46</b>
<b>Plans</b>	<b>pages 46 - 47</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 49</b>
<b>Scale-rules</b>	<b>page 49</b>

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#### **References**

*Children's Encyclopedia.* (1910). v. 1, pp. 564-566; [www.hathitrust.org](http://www.hathitrust.org)





## A LARGE SHOP FOR MODELTOWN

It is to be hoped that we did not find too difficult the work of making the cottages and shops that we have erected in Modeltown. They were really not so difficult as those we are now going to make, but with care and patience those we are now about to make are well within our skill. We shall make a larger shop than those we have already built. Small shops are very well for a small village, but as the village gives evidence of growth that will make it an important town, large shops begin to rise. Some shops,

also, need much more room than others. A furniture shop, for instance, is usually bigger than a baker's shop, because the tables and sideboards take up much more room than do the loaves and cakes. So we shall make a larger shop, and let it serve for a cabinetmaker or any other kind of shopkeeper who needs a good deal of room.

The shop we are about to make is shown in picture 1, and if we refer to this as we go along it will help the building operations very much. Picture 2 is the plan of the frame of our shop. It is drawn to one-third scale, so in making the drawing on our card we must use rule C to take the measurements and make our drawing with the full-sized rule.

We have already seen the meaning of the different kinds of lines in our plans, so we need not go over these particulars again. Having made the drawing and cut out the card in the usual way, we bend up the card as shown in picture 3. This picture shows by dotted lines the end part that folds up to make the floor of the upstairs, so as to give a better view of all the parts. This part is shown in solid lines in picture 4. Having folded up the card to make the frame of the house, we glue the edge slips where they go behind the walls and so make it strong and rigid. The turned-up edge of the first floor must be glued to the inside of the high front wall.



At the four crosses on the plan we make pin-holes in the walls, and glue inside the walls at these places slips of wood such as wooden matches without their heads, so that they may support the top floor. We have done this work before, so that it will not be at all difficult. We must now draw and cut out of cardboard the plan of the second floor as shown in picture 5, and the partitions in pictures 6, 7, 8, and 9, making all these the same size as the pictures—that is, using the full-sized rule both for taking the measurements and for marking the

sizes on the card. Picture 10 shows how the top floor and the four partitions are to be placed. Those with the slant go into the attics at the very top and the other two into the floor below it. We must glue all these carefully into place. We find that the back wall of the building hinges open, except the part on the ground floor, and we shall find this very convenient when we furnish the upstairs rooms. We will add a very necessary provision for tall buildings—a fire-escape.

If we look at picture 11, we see the fire-escape attached to the back wall. As the upper part of the back of the house hinges open, we must make the escape in two parts. First we draw and cut out a card to the shape of picture 12, which is a full-sized drawing. We attach this stairway to the lower part of the back wall, as shown in picture 10. Now we draw and cut out the plans in pictures 13 and 15, making the drawings the same size as the plans. Picture 15 is the upper stairway with the top and the intermediate landing, and picture 13 is the hand-rail that goes right down the side and is attached to the walls and also to the edges of the stairs and landings.

Picture 15 shows the upper part of the fire-escape after it has been attached to the wall, and picture 16 shows how the fire-escape stairs with the hand-rail attached would look if we could see them from within the house itself. It will perhaps be easier to attach the hand-rail to the stairs

before we attach the latter to the wall, but so long as we cut everything out neatly, and glue the pieces into position firmly and correctly, this is not important. There are lines on the plan in picture 2 showing exactly where the stair has to be attached, and picture 11 gives a good idea of how the whole fire-escape should look after it has been glued into place. The back of the house is now complete, and we shall now turn to the front of it.

First we make and cut out the skylight, the plan of which is given in picture 17. We make it the same size as in the picture. The place where it has to be fitted is indicated in the plan in picture 2, and picture 18 shows how it is attached. We can also see the building with the skylight in position in picture 1.

We have now to make two chimneys, and the plans, which we make the same sizes as the plans on our card, are given in pictures 19 and 20. We have already made and attached chimneys several times, so we know how to do it by this time.

There now remain only the signboards, of which we shall want three. We have a big broad one for the front, up near the attic windows. This we cut out to the same size as picture 21, and the plan of two smaller ones, one of which we attach to the front and one to the side of the shop just above

the ground-floor windows, are given in picture 22. All the signboards we will make the same size as the picture plans, using only the full-sized rule for taking the measurements and for making the drawings on the card.

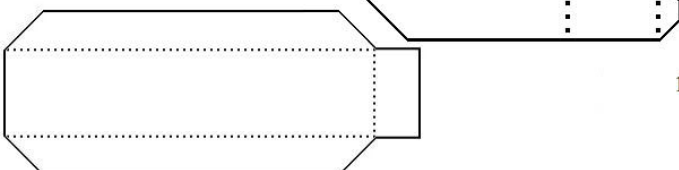
We see in picture 1 where the signboards are placed. It will be very nice if, before putting up the signboards, we put the lettering on them. We can make the shop any kind of trade we like. Let us have it a furniture shop. So we will put on the broad sign the name of the owners of the shop. We will call them Walnut & Birch, which is a very good name for furniture-makers. Now, upon one of the smaller signs let us print the word Cabinetmakers and on the other House Furnishers.

But before gluing on the facias we might paint the building. The sun-blinds we will make striped in green and white, and we will have the glass of the skylight and of the windows a pale blue. The vertical walls of the building we will have red. We can use red ink or red paint, but a better effect will be got by powdering a piece of red brick, and, after painting the walls with weak glue, applying the powder before the glue dries. Indigo or slate-colored paint will do nicely for the roof.

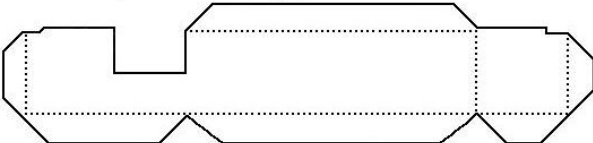
Our next building in Modeltown will be a villa.

## PLANS FOR A LARGE SHOP IN MODEL TOWN

13. Side of upper part of fire-escape, full size.



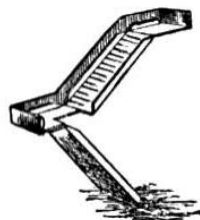
12. Lower part of fire-escape, full size



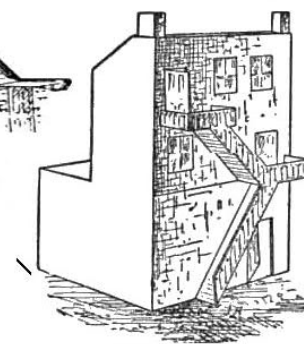
15. Upper part of fire-escape, full size



14. Stair and platform



16. Stair with railing

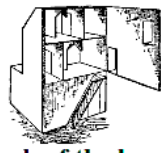


11. Back of the house, with fire-escape

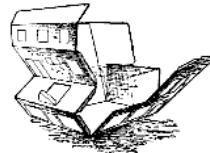
# PLANS FOR A LARGE SHOP IN MODEL TOWN



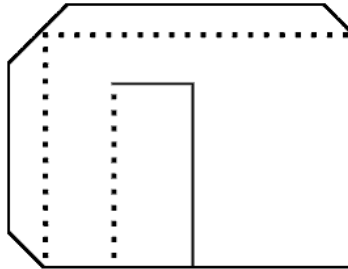
1. The completed shop



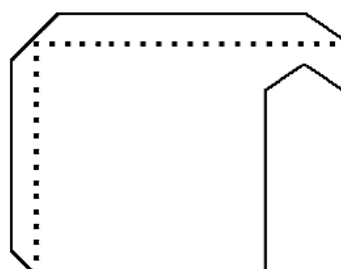
10. Back of the house open



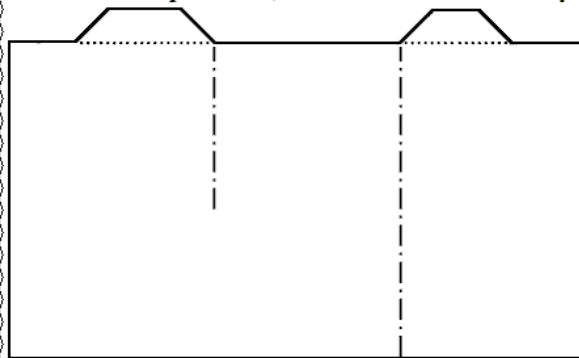
3. Bending the card



6. First-floor partition, full size



7. First-floor partition, full size



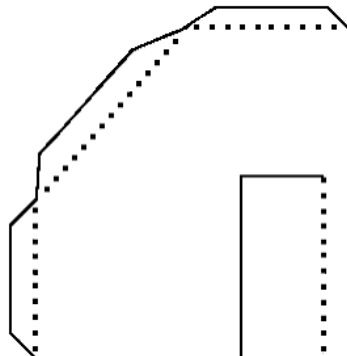
5. Plan of top floor, full size



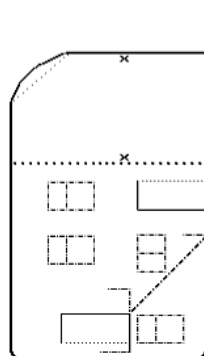
22. Small signboard, full size



21. Large signboard, full size

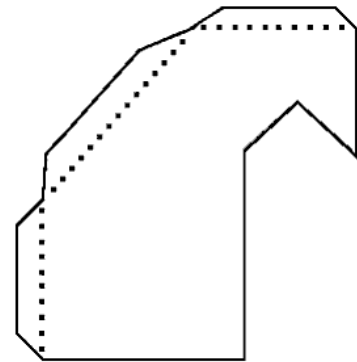


8. Attic partition, full size

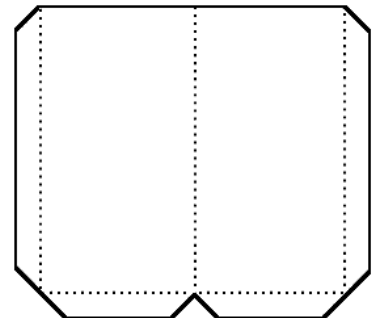


2. Plan of shop on 1/3 scale.

Measurements to be taken with rule C.



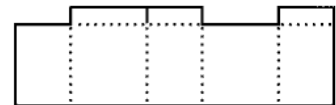
9. Attic partition, full size



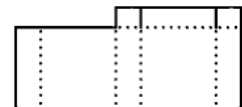
17. Plan of skylight, full size



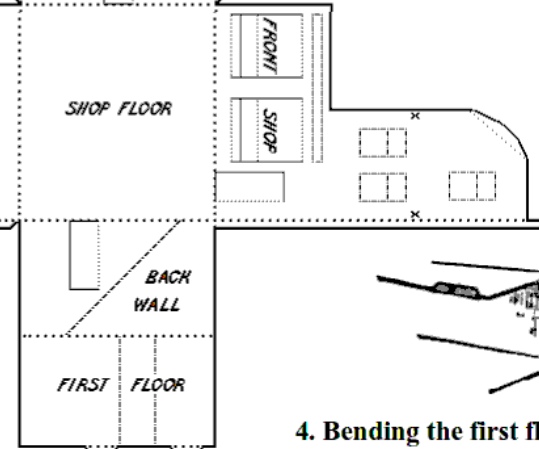
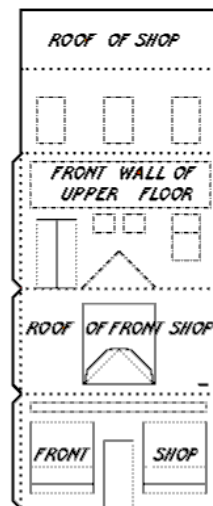
18. Skylight



19. Chimney, full size



20. Chimney, full size

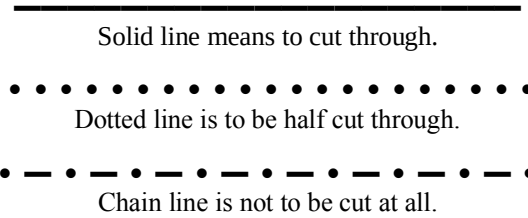


4. Bending the first floor



### Excerpt from "PREPARING FOR MODEL TOWN"

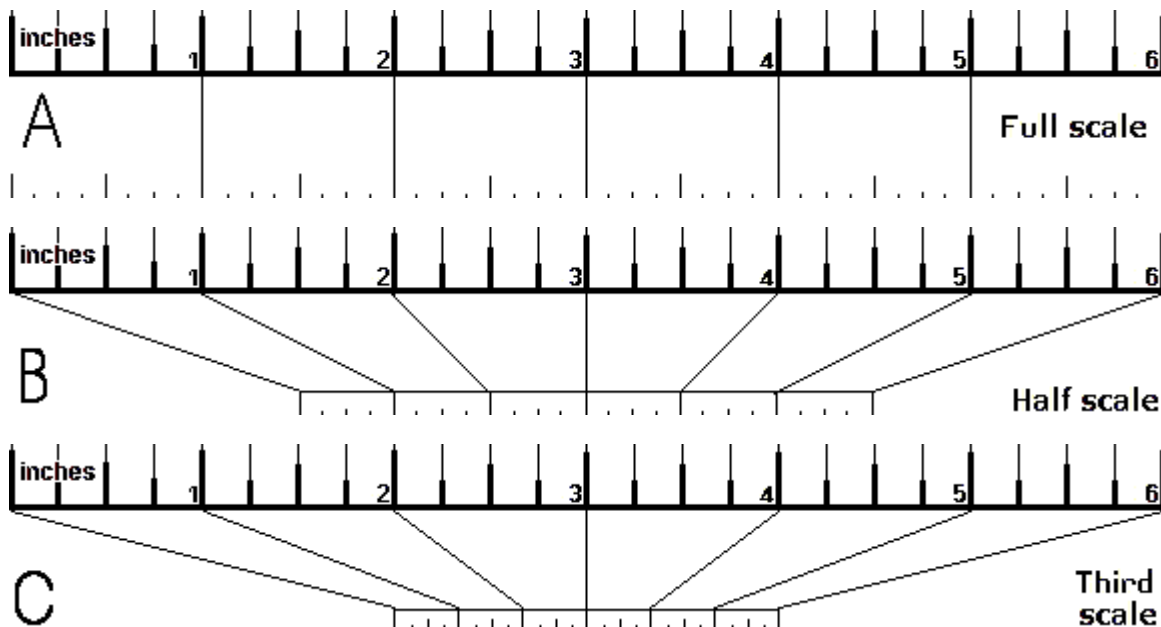
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## **Modeltown an English Village**

### **8. MAKING A VILLA FOR MODEL TOWN**

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<b>Description</b>	<b>pages 53 - 54</b>
<b>Plans</b>	<b>pages 55 - 56</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 57</b>
<b>Scale-rules</b>	<b>page 57</b>

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- Book of Knowledge*. (1911). v. 4, pp. 832-834; <https://archive.org/details/TheBookOfKnowledge4>
- Book of Knowledge*. (1918). v. 3-4, pp. 845-847; <https://archive.org/details/in.ernet.dli.2015.53236>
- Book of Knowledge*. (1921). v. 3, pp. 845-847; <https://archive.org/details/bookofknowledge03unse>
- Children's Encyclopedia*. (1910). v. 1, pp. 660-662; [www.hathitrust.org](http://www.hathitrust.org)





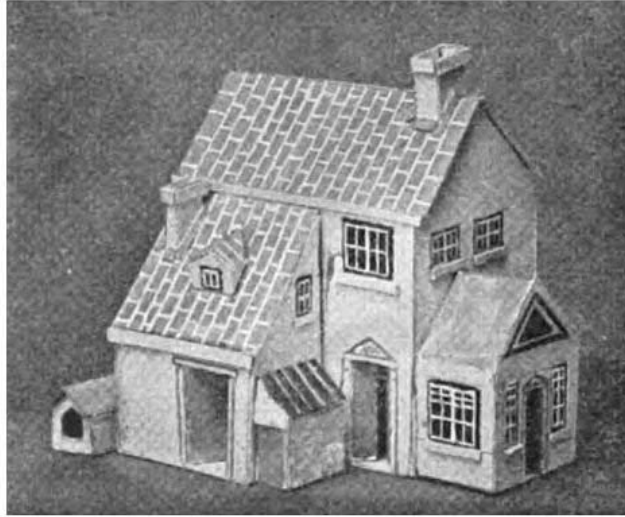
## MAKING A VILLA FOR MODELTOWN

Now let us build a Modeltown villa in which we may live ourselves. If we had to build a real villa we would require to look carefully into the cost, or we might find that we had spent more than we could afford, or more than we could pay for; but in building a villa in Modeltown we may have it just as nice as we desire without considering the question of cost, because inexpensive cardboard will make a villa with "all the modern conveniences," as the builders say. So we shall make a fairly large villa with a nice porch, a conservatory, a shed for bicycles, and a kennel for the watch-dog.

Picture 1 is a drawing of the villa when it is finished, so we see here what the result of our work ought to be. Picture 4 is the plan of the walls before bending them up. We draw this plan upon our cardboard, making it to double the scale in the picture — that is, using rule B to take the measurements and making our lines with our full-sized rule.

We remember, of course, the meaning of the three different kinds of lines as explained to us on "Preparing for Modeltown". At the places where there are crosses in the plan we make pinholes. After cutting out the card, we bend up the walls and glue the side walls to the floor by the projecting slips. To the walls inside we must glue slips of wood, such as large matches without heads, so that the floor will have something to support it.

Then we draw and cut out the first floor, the plan of which is given in picture 2, and the partition for the ground floor, which, is given in picture 3. We make these double the scale of the picture — that is to say, we use scale-rule B. When we have



fixed the first floor and the ground-floor partitions into their proper positions, the building will look as in picture 5, which shows the front wall hinging open. There are two partitions upstairs, and the plans of these are given half-scale in pictures 6 and 7. We draw these by using scale-rule B, cut them and then glue them into place at the dotted

lines marked on the plan of the floor.

Now let us make the chimney as seen in picture 9, drawing it the same size as in the picture. We know how to attach the chimney to the roof, and the dotted line on the plan of the house in picture 4 shows where the chimney ought to be glued into position. Picture 8 shows the building with all the partitions in place and with the chimney attached.

We now come to picture 10, which is the plan of the porch over the front door. This we also make full size and glue on over the front door. The dotted lines around the door in plan 4 and the finished house in picture 1 show where the porch is to be placed. The lower window in the front of the house is to be made into a bay or oriel window, and picture 12, which we make the same size, gives the plan for this. Its position is seen in the view of the finished house in picture 1. We shall find the conservatory a little more difficult than the porch and the bay window. The plan of the conservatory is given half-scale in picture 13. This we make by using scale-rule B for taking the measurements. As we bend it up and glue it into shape it will look like picture 11, and when attached to the side of the house it will be as seen in picture 1.

We have now completed the building of all but the back of the house. We have made no kitchen and we now make this separately. Picture 14 is the

plan of the kitchen half-scale size, which we make by using scale-rule B. The kitchen has a dormer window, the plan of which is given in picture 15, and a chimney, the plan of which is in picture 16. We make both the same size as the illustrations. The chimney when bent and glued will be as seen in picture 18. The dormer window when bent and ready to be glued will be as seen in picture 19, and when glued together ready to be attached to the roof it will be as seen in picture 21. Then the entire kitchen with chimney and dormer window is illustrated in picture 22.

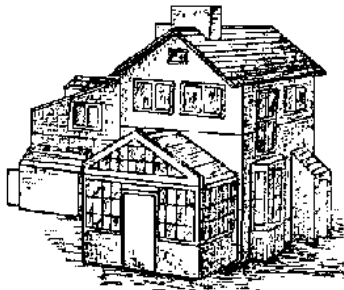
Having done all this, we shall glue the kitchen complete to the back of the house, the position being indicated by lines in picture 4 and by picture 1. Our bicycle-shed is to be attached to the side of the kitchen. Its plan is given in picture 17, and we make it the same size as the plan, cut it out and glue it to the side of the kitchen as seen in picture 1. Its plan is given in picture 17, and we make it the same size as the plan, cut it out and glue it to the side of the kitchen as seen in picture 1.

We may want to keep a dog, and after having made such an elaborate villa it is an easy task to make a kennel. The plan of the kennel is given in picture 20, and our drawing on the cardboard must be made the same size. When we are folding it up it will be as seen in picture 23, and when glued together it will be like picture 24.

We have now to paint the walls, windows, and roof. If we put weak glue on the walls but not on the windows, and, before the glue is dry, dust on some dry sand, we shall have a good stuccoed surface. The windows we shall make blue and the roof we shall paint a slate color, which we can get by mixing some red and black if we have no slate. We can make the outside doors and the porch green, as they are supposed to be wood. We can also make the bicycle-house and the dog-kennel green; but the roof of the bicycle-house we shall make black, because a real bicycle-house would probably have a roof covered with black felt well protected with tar. We have now finished the villa, of which a photograph is shown on this page.

The next building for Modeltown will be a church.

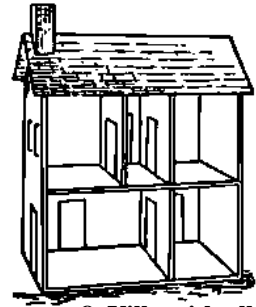
# PLANS FOR MAKING MODELTOWN VILLA, page 1



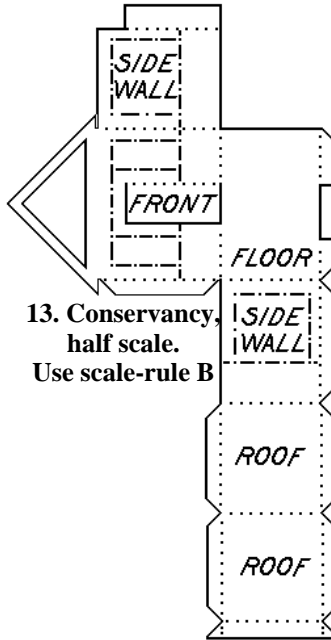
1. Design for Modeltown villa.



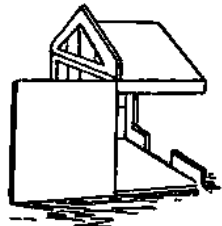
5. Villa with floor and partition fixed.



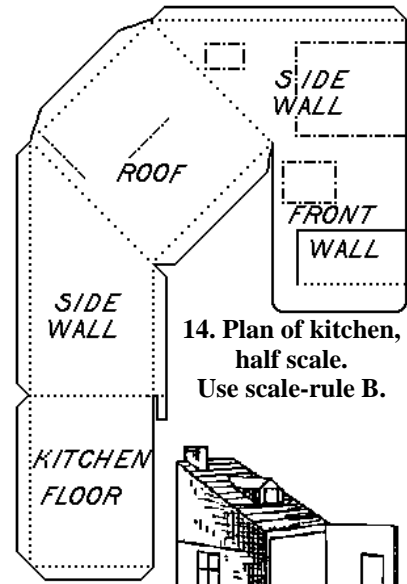
8. Villa with all partitions fixed.



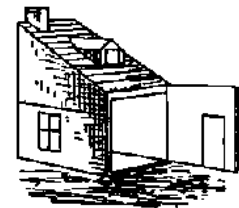
13. Conservancy, half scale. Use scale-rule B



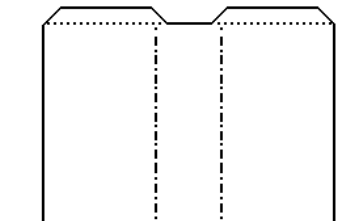
11. Conservancy being made.



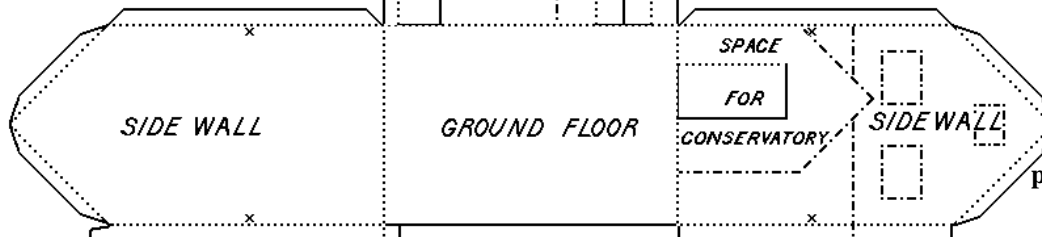
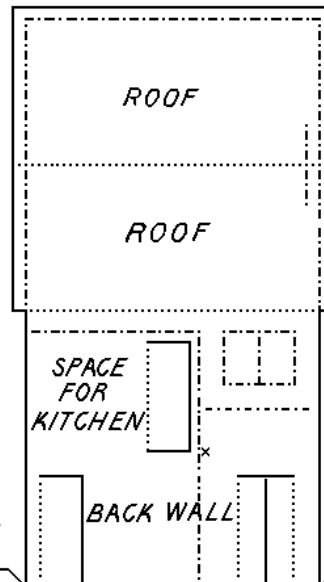
14. Plan of kitchen, half scale. Use scale-rule B.



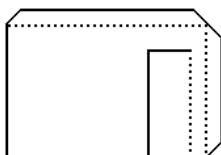
22. Kitchen complete.



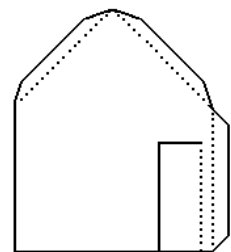
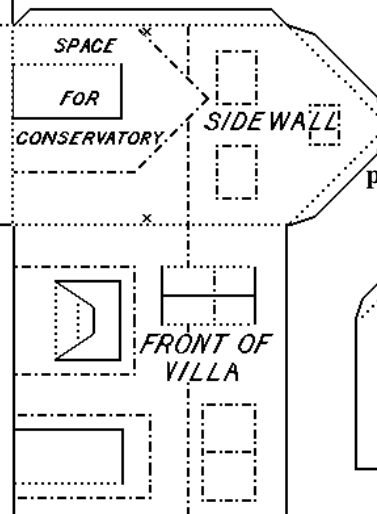
2. Plan of first floor, half scale. Use scale-rule B



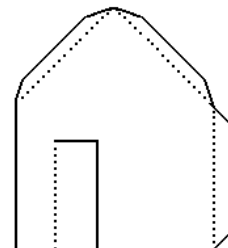
4. Plan of villa, half scale. Use scale-rule B for taking measurements.



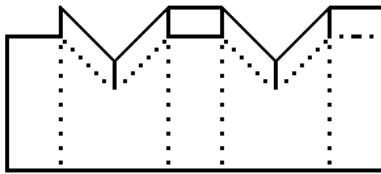
3. Plan of ground floor partition, half scale. Use scale-rule B for taking measurements.



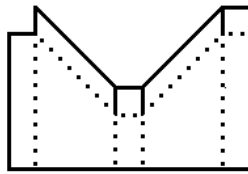
6, 7. Plans of first floor partitions, half scale. Use scale-rule B.



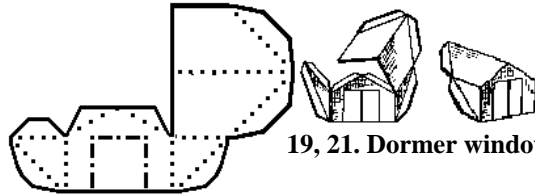
## PLANS FOR MAKING MODELTOWN VILLA, page 2



9. Plan of chimney, actual size.

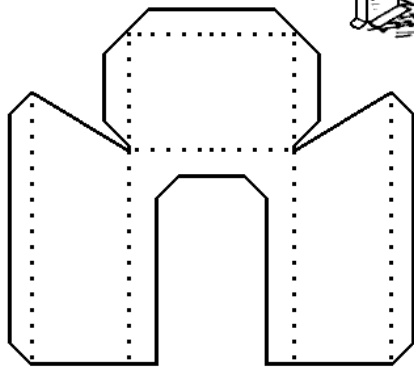


16. Plan of chimney, actual size.



15. Plan of dormer window, actual size.

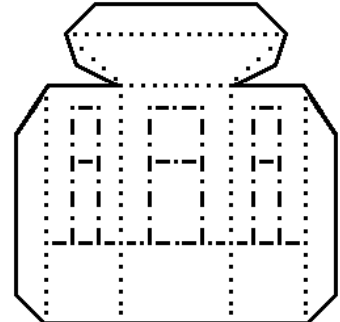
19, 21. Dormer window.



10. Plan of porch, actual size.



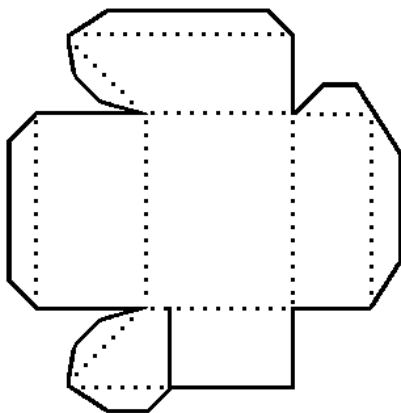
15. Plan of dormer window, actual size.



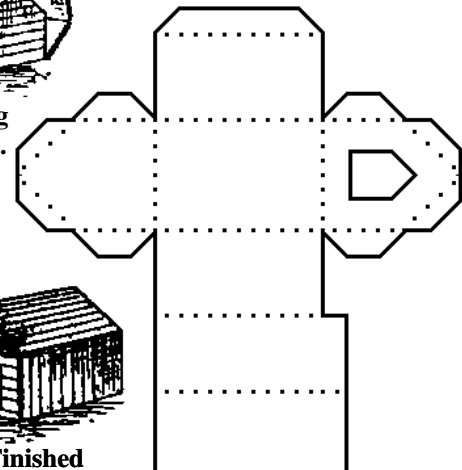
15. Plan of bay window, actual size.



23. Folding the kennel.



17. Plan of bicycle-house, actual size.



20. Plan of kennel, actual size.

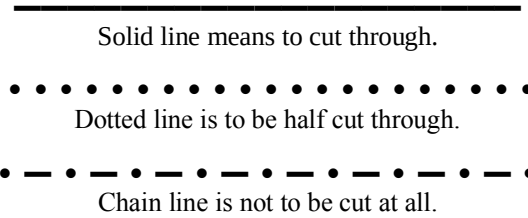


24. Finished kennel.

### NOTES:

### Excerpt from “PREPARING FOR MODEL TOWN”

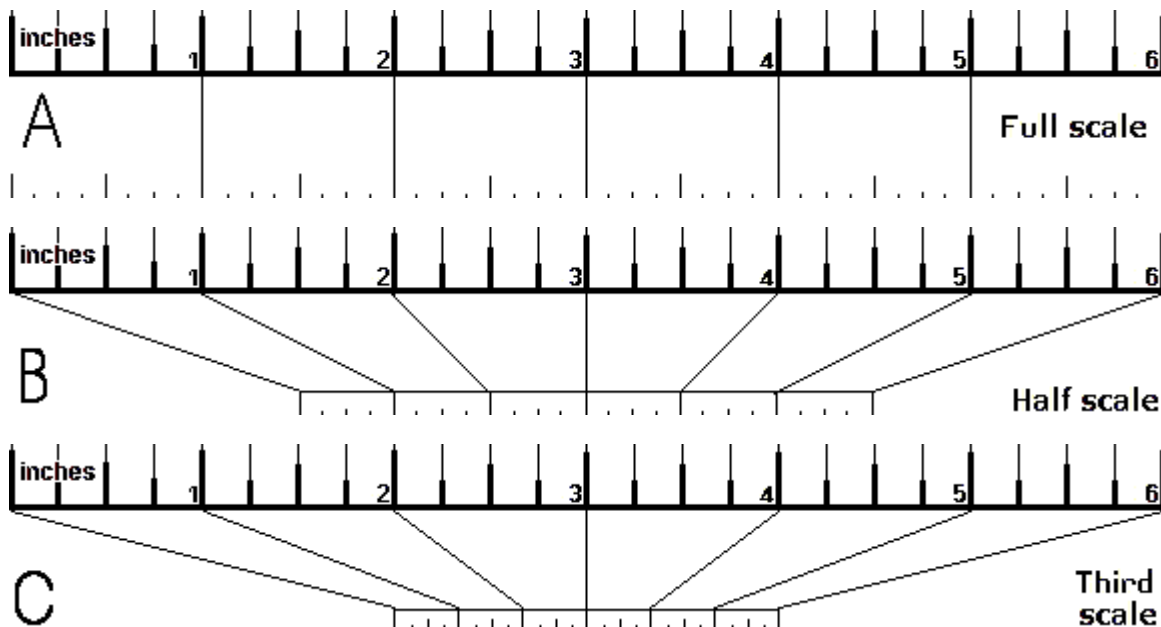
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



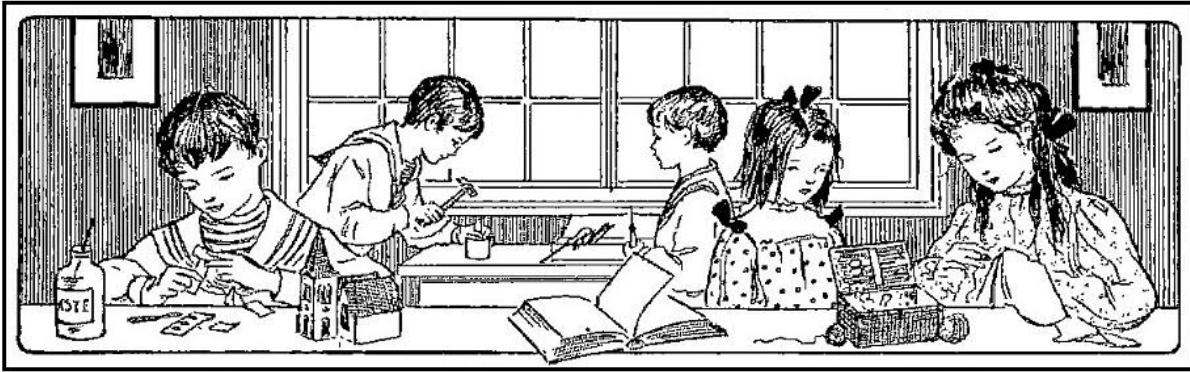
The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







## **Modeltown an English Village**

### **9. THE BUILDING OF MODEL TOWN CHURCH**

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<b>Description</b>	<b>pages 61 - 63</b>
<b>Plans</b>	<b>pages 65 - 66</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 67</b>
<b>Scale-rules</b>	<b>page 67</b>

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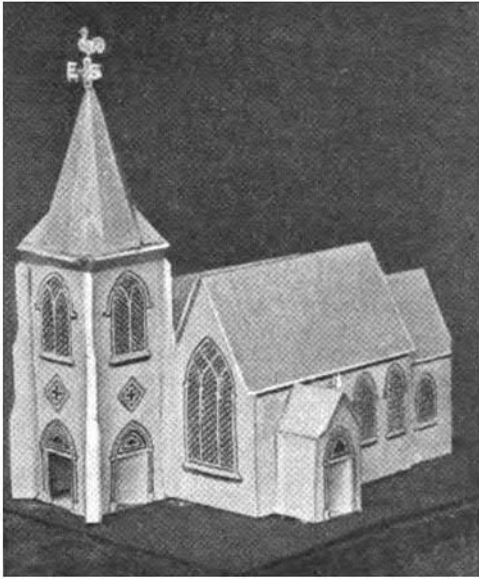
#### **References**

- Book of Knowledge*. (1911). v. 4, pp. 928-932; <https://archive.org/details/TheBookOfKnowledge4>  
*Book of Knowledge*. (1918). v. 3-4, pp. 932-936; <https://archive.org/details/in.ernet.dli.2015.53236>  
*Book of Knowledge*. (1921). v. 3, pp. 932-936; <https://archive.org/details/bookofknowledge03unse>  
*Children's Encyclopedia*. (1910). v. 2, pp. 756-760; [www.hathitrust.org](http://www.hathitrust.org)

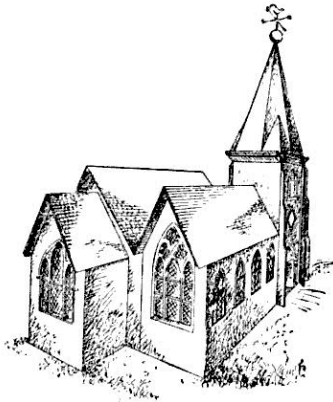




## THE BUILDING OF MODEL TOWN CHURCH



As soon as a few houses have increased in number, and grown into a village, a church is erected. Every village has its church, and we must therefore add a church to Modeltown. But, because Modeltown is going to be more important than a small village, we must give it a handsome church. Up to now the people in Modeltown have used the school as a church; and a school-church is better than no church at all. But the time always comes when people want a real church, and this we shall now give our villagers or townspeople.



In pictures 1 and the photograph we see what our church will be like. The photograph shows the church as seen from the front. Picture 1 is a view of the church from the back.

**1. Design of the church from the back.**

First we draw on our card and cut out the plans in pictures 2 and 3, which make the south aisle. The pictures are half-scale, so that we take the sizes with scale-rule B, and make the lines upon our card with our full-sized rule. We know from "Preparing for Modeltown" the meaning of the three different kinds of lines do not need to go

over all that again. Before folding up the cards which we have cut out, we glue the smaller portion of the south aisle, of which picture 2 is the plan, into its place on the floor of the aisle. The place marked **A** and **B** on picture 2 is glued to the place marked **A** and **B** on picture 3, and thereafter we treat the two pieces joined up as if they were one piece. Picture 5 shows the two pieces joined into one, and being folded up. Picture 7 shows them glued together and standing upright. It will be noticed that the feet of the two pillars, when bent over, rest upon the places marked on the plan in picture 3. These pillars must be glued down exactly into place, or the aisle will not be straight. The tops of the two end walls must be glued under the roof up to the chain line in picture 3, and this also must be neatly done if the church is to be neat and regular.

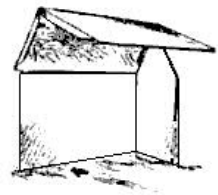
**5. Folding the south aisle.**



**7. South aisle completed.**

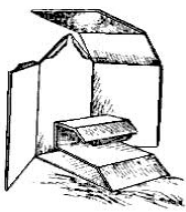


Now we come to the north aisle, the floor of which is already made as part of the south aisle. Picture 6 is the plan of the side wall and end of the north aisle, and is half-scale, so that when drawing it on the card we take the measurements with scale-rule B. making our drawing with the full-sized rule. Then we make the north aisle roof, the plan of which is given In picture 8. This also is half-scale, so again we use scale-rule B in taking the measurements. Having made the roof, we glue it into position on top of the walls as seen in picture 9, after which we glue both to the south aisle and to the floor of the north aisle, which we made along with the south aisle. Having done this, we have completed the main body of the church, but have yet to make the chancel and tower.

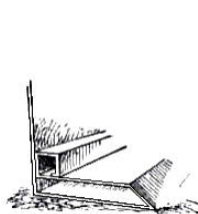


**9. North aisle with roof.**

The plan of the chancel is shown half-scale in picture 15, and we proceed to draw this on the card, still using scale-rule B, and cut it out. Some of the dotted lines have small circles at each end. The card must be cut half through at these lines, not on the side of the card on which the drawing is made, but on the other side of the card. Part of this piece is the altar, and it requires careful bending up to be done neatly. Picture 10 indicates how it appears when being folded into the correct position, and picture 11 shows the altar and the raised floor of the chancel. Where the altar touches the end wall of the chancel, it must be glued in such a position that the raised floor will be quite level. After gluing together, the chancel from the inside will appear as seen in picture 12.



10. Folding the chancel.

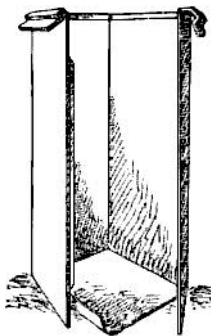


11. Altar floor.

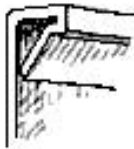


12. Chancel complete.

We now come to what is perhaps the most difficult piece of all — namely, the church tower. Its plan is given in picture 17, and is half-scale, so that we make it accordingly, taking our measurements from the picture with scale-rule B, and making the lines upon the card with our full-sized rule. The tower is folded up as shown in picture 16. Care must be taken with the cope or moulding at the top; and picture 13 is intended to show us how this should be bent over so as to make the top look heavy and solid.

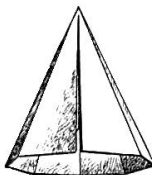


16. Folding the tower.



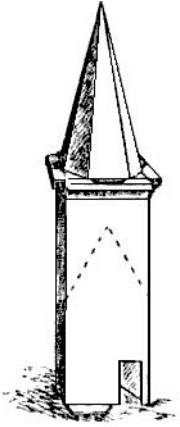
13. Cope of tower.

The steeple is of rather irregular form. The plan of it in picture 14 is half-scale — that is to say, we use scale-rule B in taking the sizes from the plan. Having cut out the steeple,



we fold it up into a pointed shape as shown in picture 18, and glue the edges together by means of the projecting slip. The steeple is now glued to the top of the tower, and will have the appearance of picture 19. It must be put on quite straight or the result will be very bad. **19. Tower with steeple.**

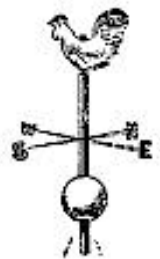
The tower and steeple are not yet complete: we have to make four corner-pieces for the base of the steeple just above the tower. The plan of the corner-pieces is given full size in picture 20. We must make four of these, and glue them into place as indicated in picture 24. The tower can be strengthened and its appearance made better by adding some buttresses to it. There are four



buttresses for the two corners at the front of the tower, two as the plan given in picture 21, and two as the plan given in picture 22. The plans are half-scale, so that we use scale-rule B for the measurements. Having drawn and cut out two of each, we glue them to the

**24. Church with steeple.** front corners of the church tower, one of 21 and one of 22 to each corner, as shown in pictures 1, 4, and 24. The folded slips at the sides of the buttresses are glued to the sides of the tower. Then we make another buttress as plan 21, and another as plan 22, which we fix to the corners of the tower next the aisles, in the same way as we have fixed the buttresses to the front corners.

A good many churches have vanes, or weathercocks, so why should not we? So long as we can make one ourselves there is no reason why we should not have one. We get a large wooden match, and put it through a fairly large bead — say, a bead from a necklace. Then we open the top of the steeple a little at the extreme point, and, having put some hot glue on the match below the

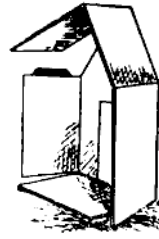


bead, we push the match into the steeple until the bead is right on the top of the point of the steeple. Now we take two small, thin pins and push them half-way through the match as seen in picture 23. The four letters, N., E., S., and W — standing for North, East, South, and West—can be cut from any newspaper, but it will be better to cut them from a magazine or other book with thicker paper than a newspaper. A touch of glue or a little sealing-wax will enable us to attach the letters to the four ends of the two pins.

We have only the cock to add to the top to complete the weathercock. We can make a small drawing of a cock on thin card or thick paper and pass a pin through it vertically. This we push into the stem of the match, and then the weathercock, as in picture 23, is finished. The tower with steeple and buttresses is also finished, and requires to be attached to the front of the church in the usual way. It is glued to the end of the north aisle that was left open, and its position is shown in picture 24 and in the photograph.

Only one thing remains to be made — a porch for the side door of the south aisle. The plan for this is shown full size in picture 25, and in drawing it we therefore use the full-sized rule only. As it is being folded up it will appear as seen in picture 26, and picture 4 shows the position upon the

aisle. That completes the structural part of the church which can we have finished many of the other buildings.



**26. South aisle porch folded up.**

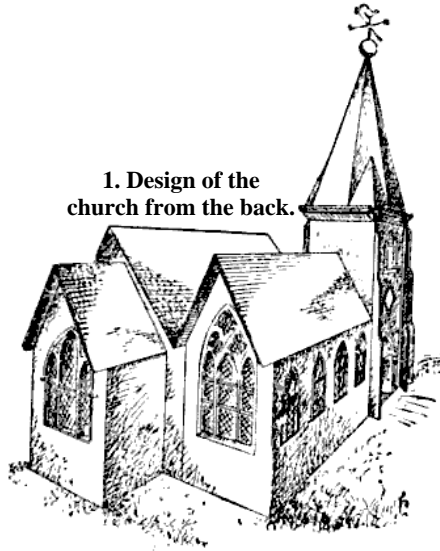
We will make lines round all the windows to make them prominent, and the parts that represent glass we will color the usual blue. The doors will look well if we paint them dark red, and we can do this with red paint, or, if more convenient, with red ink, darkened with a few drops of black ink. We can make the roof a slate color, as it would probably be covered with slates in a real church. A church made according to these instructions has been photographed, and is shown. If we have followed the instructions carefully, the church that we have made will look like it.

Our next task will be to make a vicarage in which the vicar of the church may live.



# PLANS FOR A CHURCH IN MODELTOWN, page 1

1. Design of the church from the back.



5. Folding the south aisle.

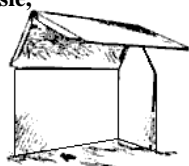


7. South aisle complete.

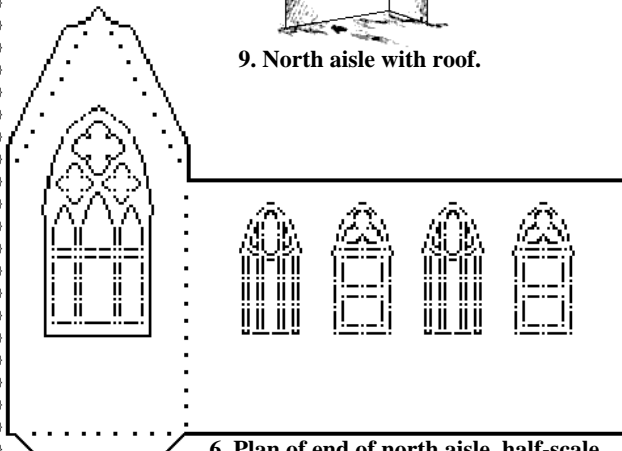


8. Plan of roof of north aisle, half-scale.

Use scale-rule B

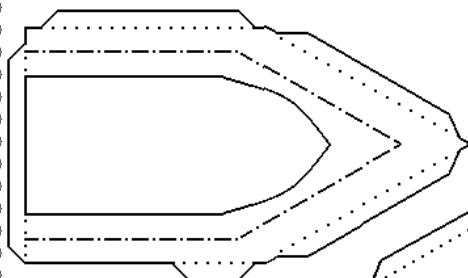


9. North aisle with roof.



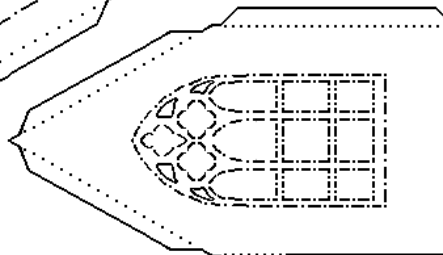
6. Plan of end of north aisle, half-scale.

Use scale-rule B



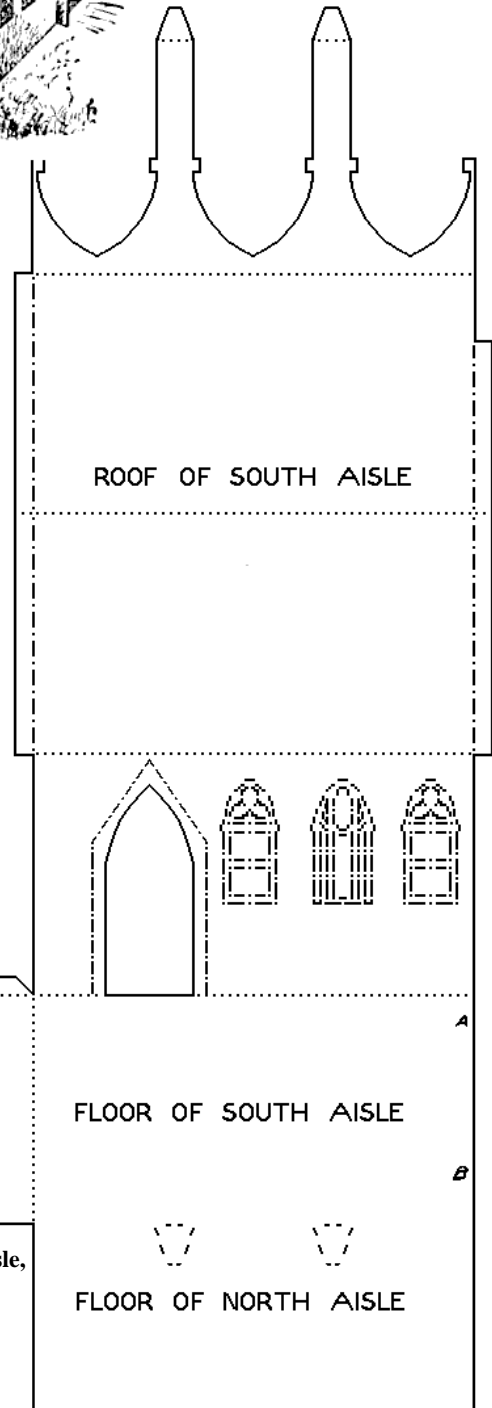
2. Plan of end of south aisle, half-scale.

Use scale-rule B

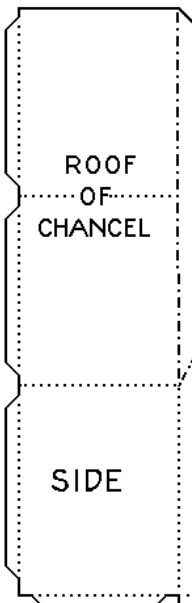
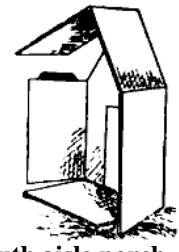
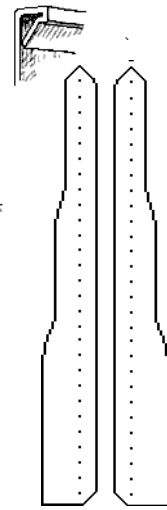
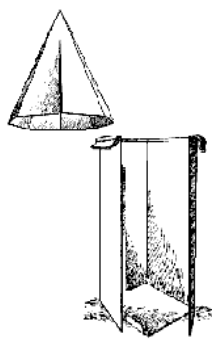
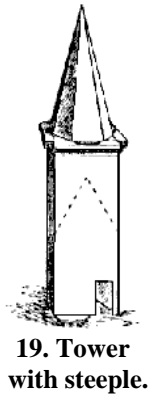


3. Plan of south aisle, half-scale.

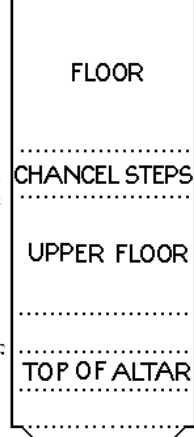
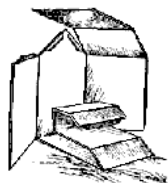
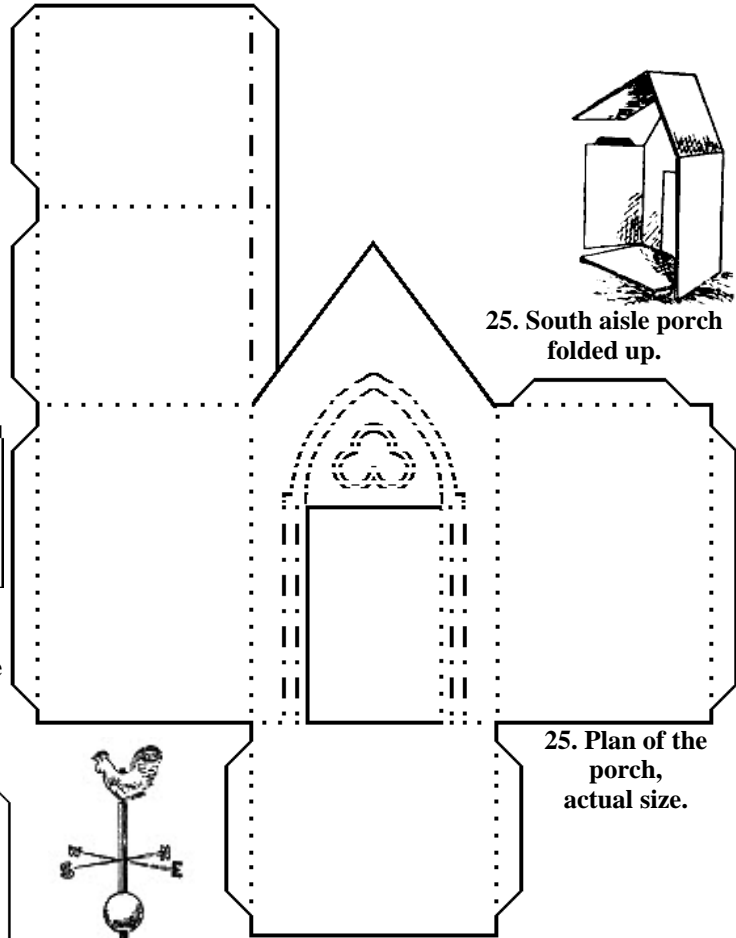
Use scale-rule B



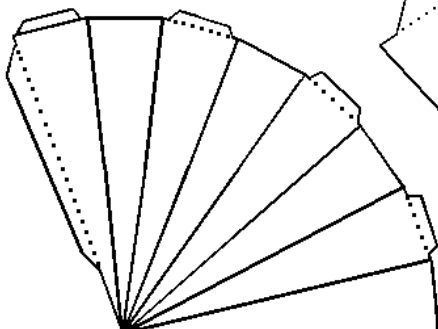
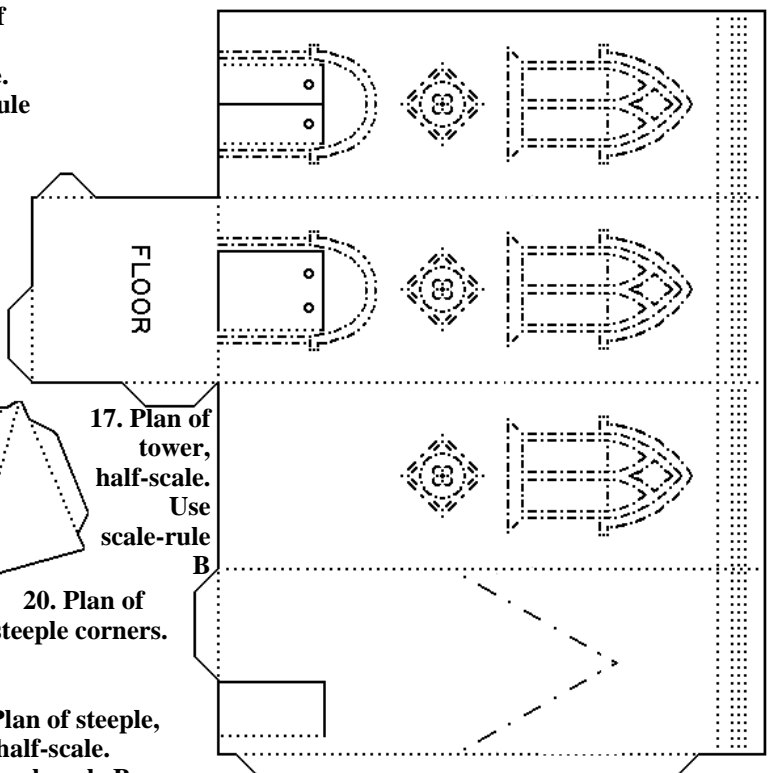
# PLANS FOR A CHURCH IN MODELTOWN



21, 22. Buttresses, half-scale. Use scale-rule B



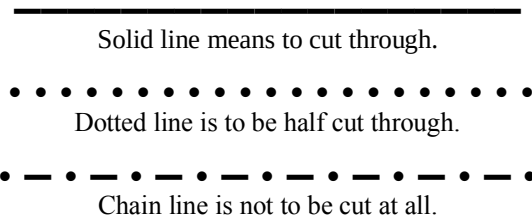
5. Plan of chancel, half-scale. Use scale-rule B



24. Plan of steeple, half-scale. Use scale-rule B

### Excerpt from “PREPARING FOR MODELTOWN”

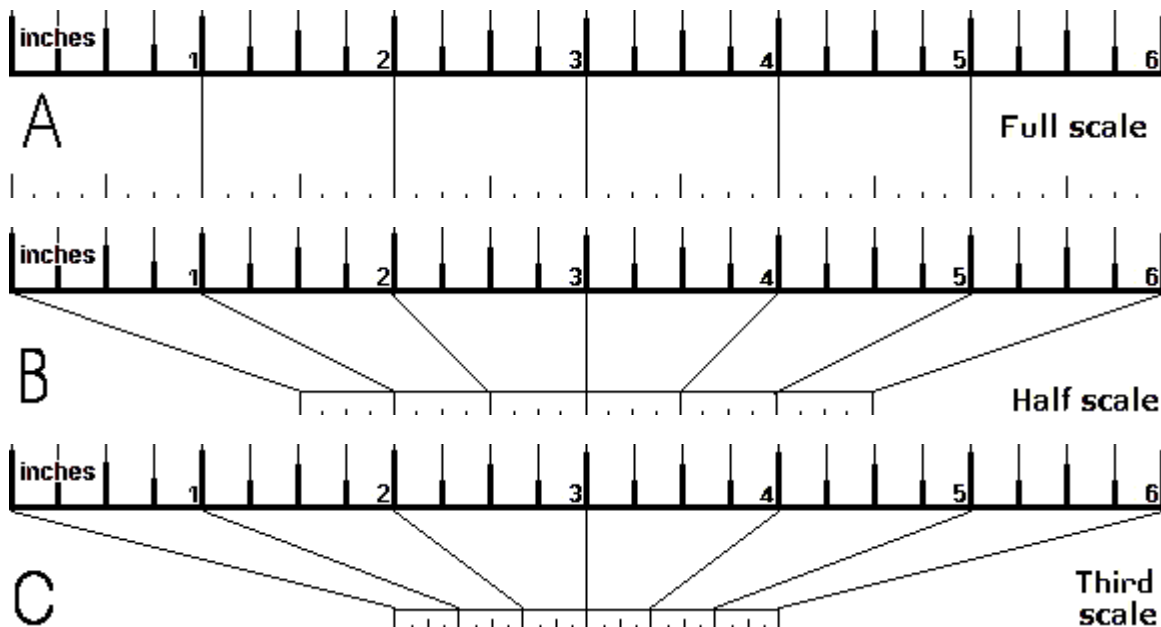
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The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.









**Modeltown**  
**an English Village**

**10. MAKING THE VICARAGE FOR MODELTOWN**

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<b>Description</b>	<b>pages 71 - 73</b>
<b>Plans</b>	<b>pages 75 - 76</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 77</b>
<b>Scale-rules</b>	<b>page 77</b>

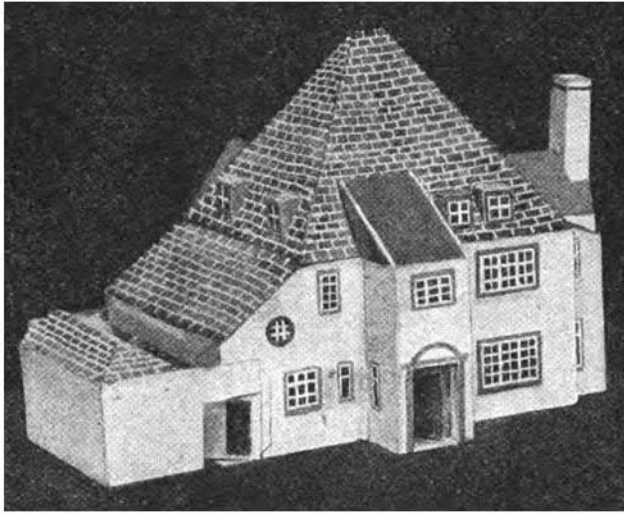
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**References**

*Children's Encyclopedia.* (1910). v. 2, pp. 862; [www.hathitrust.org](http://www.hathitrust.org)



## MAKING THE VICARAGE FOR MODELTOWN



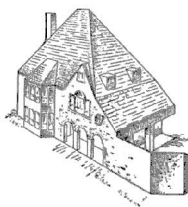
Having built a church for Modeltown, we must now erect a vicarage in which the clergy who officiate in the church may live. We may build a good, large, comfortable vicarage when we are about it, especially as we do not need to consider the question of price, since it will be made of cardboard, and not of brick or stone.



**4. Vicarage front, showing hall**



**5. Vicarage from hall front**

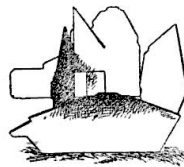


**6. Vicarage from garden front**

Pictures 4, 5, and 6 show different views of the vicarage that we are about to make. Picture 6 shows the front at the garden side, picture 5 shows the main-hall front, and in picture 4 we have the hall front from the opposite end from picture 5. There are several interesting features in our vicarage, that will make its construction interesting and its finished appearance attractive. We shall have a loggia, or covered way, which will give an approach to the garden from the drawing-room and other rooms of the house. The loggia may be seen in picture 6. Then there is a specially designed porch around the hall door, which may be seen in picture 5. There is also a special side entrance, which

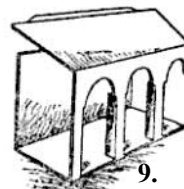
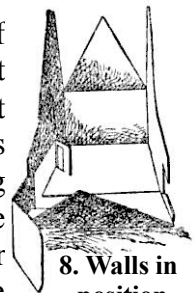
into it, may be seen in picture 5. The drawing-room has a large bay window, as seen in picture 6, and the dining-room is made larger by having the chimney made much larger, so as to give room for an extra window at each side and cozy-corner seats.

Having seen the sort of vicarage we are about to make, we shall proceed with the work; and, as we have seen in "Preparing for Modeltown" the meaning of the three different kinds of lines, we need not go into their description again. The first thing is to draw on our card the plans shown in pictures 1 and 2, which are given one-third scale, so that measurements must be taken with rule C, and the measurements made upon the card with the full-sized rule, thus making the plans to the full size. The two cards, after being cut out, must be glued together, the letter **A** on the one being glued on top of letter **A** on the other, and letter **B** on the one being glued on top of letter **B** on the other. Then we shall handle the two glued together as if they were one plan.



**7. Bending walls**

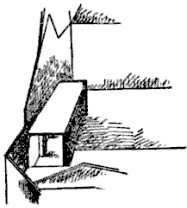
We do not, of course, need to put on the plans that we draw the words and the lettering that appear in the pictures, as they are for our guidance only. As we bend up the card, it will look like picture 7, and picture 8 shows it when three sides, or walls, have been bent up, and the fourth is about to be bent up. We bend up the three sides, and glue the edges where they fit each other. We leave the fourth side unglued and not bent up at present, the reason for which we shall see presently. Meantime we proceed with the other parts.



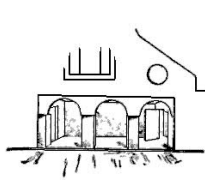
**9. Folding portico**

Let us make the portico next. Its plan is given half-scale in picture 3, and its appearance, when folded up, is shown in picture 9. It must be glued into its place within the walls of the building, and picture 10 represents it as it will look when in place. The

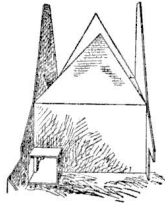
outside face of the portico should be exactly flush with the face of the house, as seen in picture 11. The sides of the pillars, bent inwards towards each other, will give an appearance of solidity to the columns. We now fold up and glue into place the fourth wall of the house, and its appearance when fixed is shown in picture 12, the end of the portico protruding through the space left in the end wall. That finishes this part of the vicarage in the meantime.



10. Portico in position

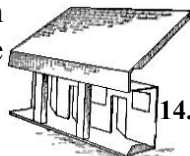


11. Front of portico



12. With 4<sup>th</sup> wall up

We now turn to the kitchen and scullery extension, the plan of which is given half-scale in picture 13. In making our drawing, we therefore use scale-rule B in taking the sizes, and use our full-sized rule, as usual, in marking the sizes on our card, wall folded up. But to one thing we must pay attention here. The lines with the small circles at the ends in the plan we must cut half through, not on the side where we have made the drawing, but on the opposite side of the card. They have to be bent back the opposite way from the other dotted lines. Picture 14 shows how we must bend up the card after it has been cut out. The columns must be bent round and glued at the edges, so as to look solid and square. The places where the two columns are attached to the roof are indicated by chain - dotted squares in the plan in picture 13. After having been folded up, this piece is glued into position on the fourth wall, which we folded up last, and just beside the protruding end of the portico, which we have already made and fixed.

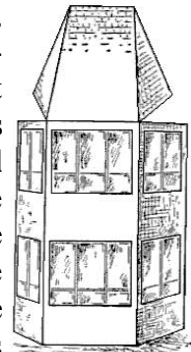


14. Kitchen extension

We have left the roof unfixed, and we may now give it attention. Two sides of the roof have flat tops, and two have pointed tops. The flat-topped sides have slips to fold over for gluing. Let us glue one of the flat-topped sides by its two folded slips to one of the pointed sides, and let us leave

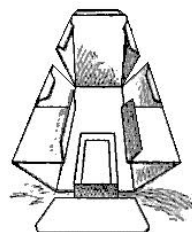
the fourth side of the roof to open for convenience in the meantime. In gluing the roof, we must be very careful to have the edges go together neatly, because a great deal of the appearance of the finished building depends upon well-made corners in the roof.

We now turn to the bay window, the plan of which is given half-scale in picture 15. In drawing it we use rule B, and make the lines on our card with the full-sized rule. When being folded up, the bay will look like picture 16. The plan in picture 2 has a place marked indicating where the window is to go, and its appearance when glued into position is shown in picture 16.



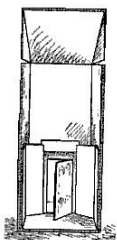
16. Folding the bay window

The porch around the hall door, as shown in pictures 4 and 5, will be our next task. Its plan, which is half-scale, is given in picture 17. We therefore take our measurements from the scale-rule B. The dotted the small circles at each end must be half cut, not at the side of the card where they are drawn, but at the opposite side of the card. The porch, when being folded up, will look like picture 18. The lower parts of the sides have been extended to fold back into the inside of the



18. Folding the porch

porch. They must be folded and glued as shown in picture 19, thereby making an outer lobby, and so as to have the door-frame glued to them. The door is recessed back



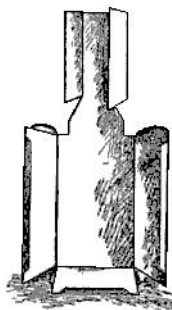
19. Porch glued

from the front of the porch, so that it is not quite at the outside. The dotted lines and the illustrations make clear how the folds should be made; but, to make it clearer still, we have in picture 20 another illustration, showing how the door-part would look if we could see right through the outer wall. The gluing is done where the side flaps touch the edges of the door-frame. The porch, when folded up and glued together, is glued to the front of the house at the place



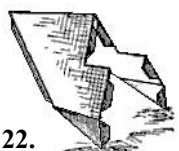
20. Door in porch

indicated in the plan in picture 2. The appearance, when fixed, will be as seen in pictures 4 and 5.



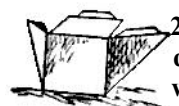
The next addition to our vicarage is the chimney-breast, which also makes the dining-room extension. The plan of the chimney-breast is given in picture 21, which is half-scale, so that we take our measurements with scale-rule B, using the full-sized rule as usual for making the lines on the card.

**23. Folding up chimney-breast** When being folded up, and when looked at from the inside, the chimney-breast should look like picture 23. Then we make the roof of the chimney-breast, which is shown full size in picture 24, so that in drawing it we use the full-sized rule both for taking the sizes and for making the lines on our card. This piece, when bent up, will have the form shown in picture



**22. Folding roof of chimney-breast** in picture 2 on one of the walls with a sharp-pointed roof. This part will require some care in adjusting before gluing, but a little patience will enable us to do it all right.

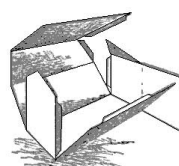
The gable that projects through one part of the roof makes an ugly corner that the roof does not cover. We must make a special part to fit this, so as to have the entire roof complete and neat. We draw and cut out the plan shown in picture 25, which is given full size, so that we use only the full-sized rule in making it. After cutting it out, we glue it into position. Its appearance, as it is being placed above the peak of the wall, is shown in picture 26, and a general view, after fixing, is provided in picture 6.



**27. Fold dormer window** We have now to make five dormer windows, the plan of which is given full size in picture 28. We therefore draw and cut out five pieces of card to this shape and size, using only the full-sized rule both for the measurements in the book and on the card. When folded up, the dormer windows will look like picture 27. Notice

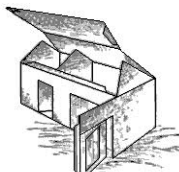
that, in half cutting the dotted lines of these dormer windows, the thin-edge slips are half cut on the opposite side of the card to where the lines are marked, as these slips have to be bent in the opposite way from the actual corners of the windows themselves. The plan picture 2 shows the places for these dormer windows. Two are at the side of the hall porch, one is at the side of the chimney, and two are above the kitchen roof. This completes the construction of the main building of the vicarage.

We have yet to make a detached building that will serve as a motor-shed and coach-house. The plan of this is given in picture 31, which is half-scale, so that our drawing must be made by using scale-rule B in taking our sizes, and the full-sized rule for marking our sizes on the card. The appearance of this building, when being folded up, is given in picture 29, and when the walls have been glued together it will be as seen in picture 30. A partition for this building will enable us to divide it so that we may use part as a motor-house and



**29. Folding up outbuilding**

part as a wash-house. The plan of the partition is given full size in picture 32. Finally, picture 33 shows the outbuilding



**29. Outbuilding glued up**

attached to the side of the house in such a position that a space is left in the form of an unclosed yard for drying clothes or other purposes. This part, from the back, is seen in picture 5.



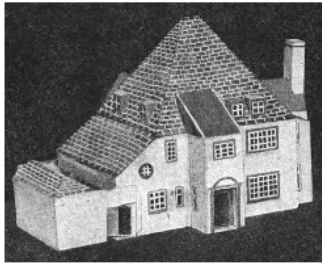
**33. Motor-/wash-house extension**

The structural part of the vicarage is now complete. How shall we finish it? Let us leave the walls white, simply making the roofs red, to imitate tiles, and the windows dark blue, to look like glass. We can put lines round the windows and doors to take away the plain whiteness.

Not everyone goes to church. Some people prefer to go to chapel; and in Modeltown we shall have people of all creeds so long as they do nothing to bring discredit upon Modeltown. So that next time we shall make a chapel and a mission-hall.



# PLANS FOR THE MODELTOWN VICARAGE, page 1



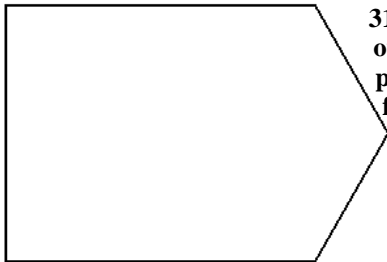
Photograph  
of vicarage  
from  
main-hall  
front.



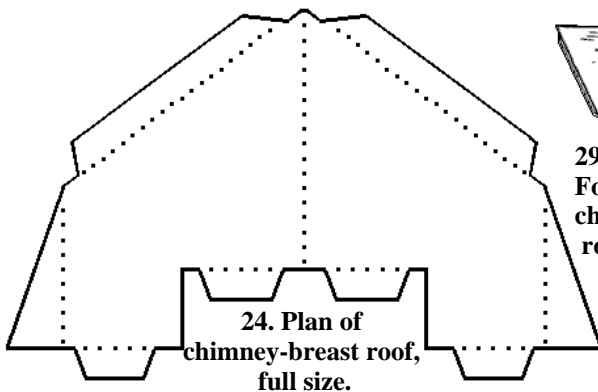
4.  
Vicarage front,  
showing hall.



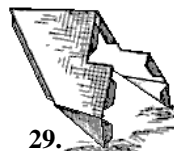
6.  
Vicarage  
from garden  
front.



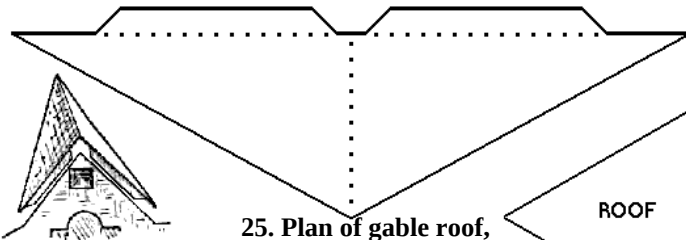
31. Plan of  
out-house  
partition,  
full size.



24. Plan of  
chimney-breast roof,  
full size.



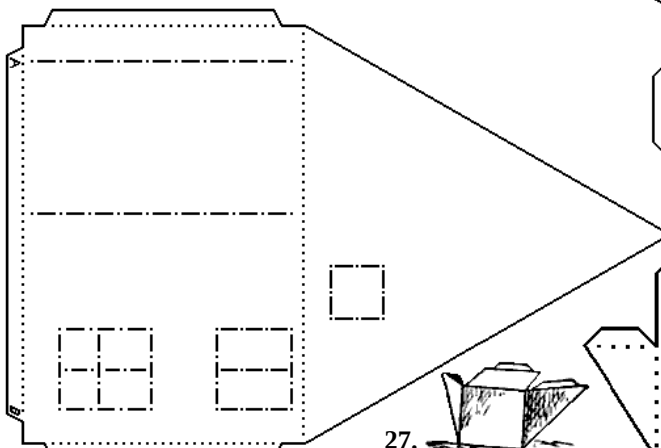
29.  
Folding  
chimney-breast  
roof.



25. Plan of gable roof,  
full size.



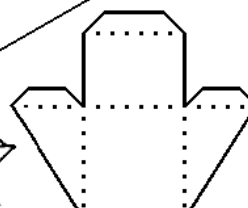
26. Position of  
gable roof.



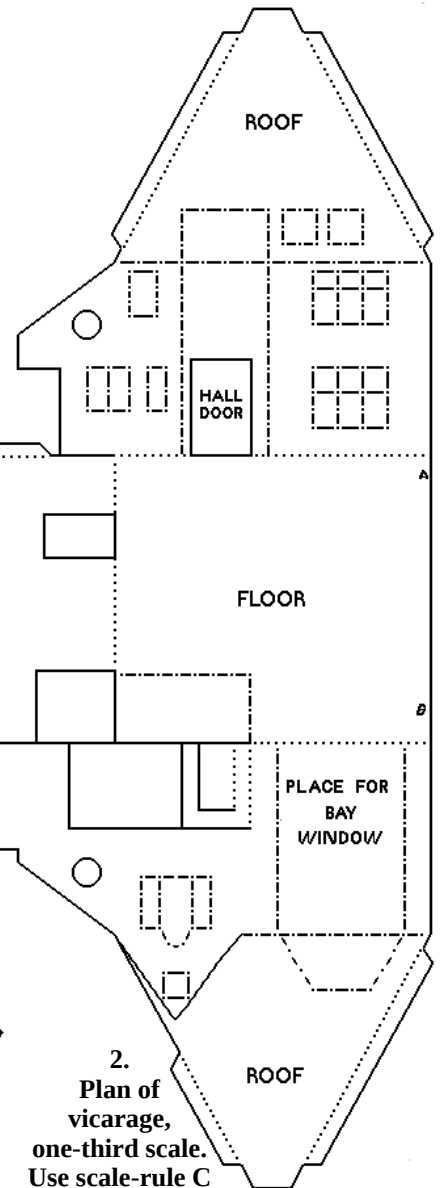
24. Plan of chimney-breast  
roof, full size.



27.  
Folding the  
dormer window.

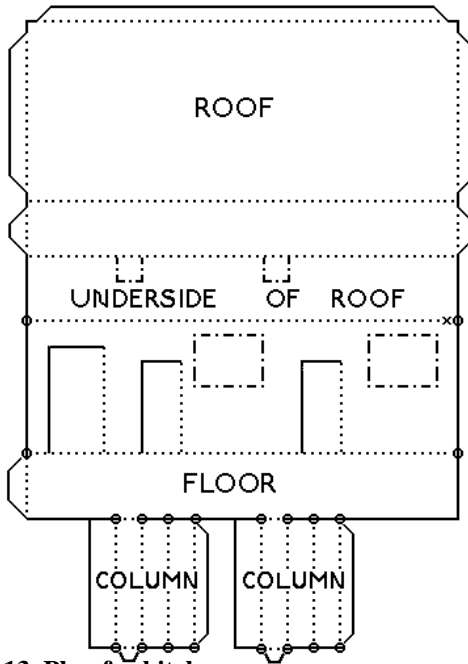


28. Plan of dormer  
window, full size.

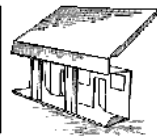


2.  
Plan of  
vicarage,  
one-third scale.  
Use scale-rule C

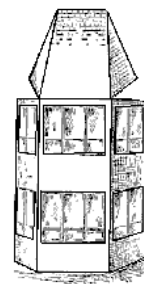
# PLANS FOR THE MODELTOWN VICARAGE, page 2



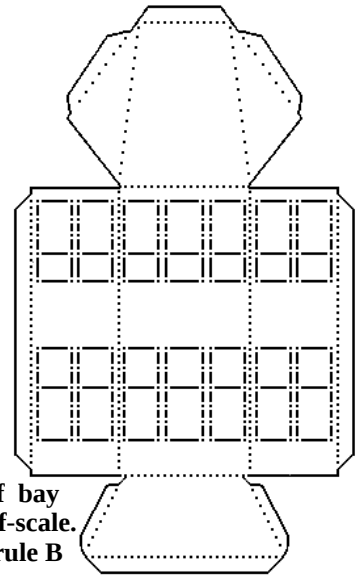
13. Plan for kitchen extension, half-scale.  
Use scale-rule B



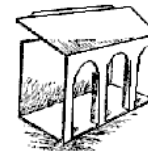
14. Making kitchen extension.



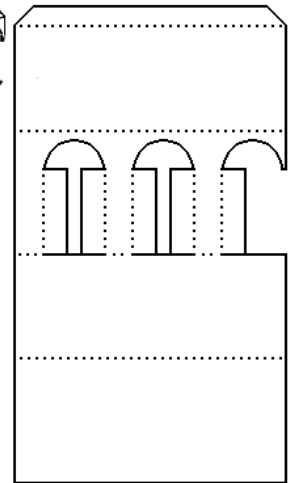
16. Folding the bay window.



15. Plan of bay window, half-scale.  
Use scale-rule B

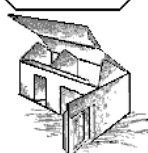
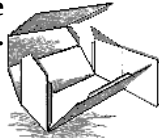


9. Folding the portico.

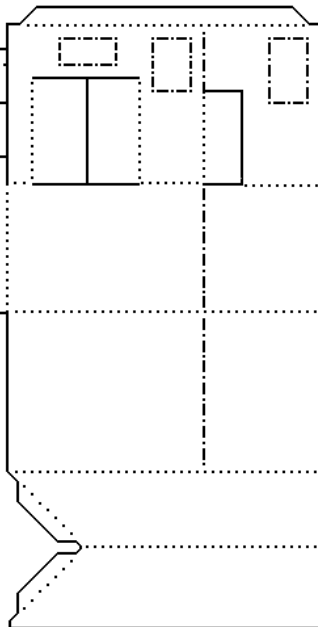


3. Plan of the portico, half scale.  
Use scale rule B

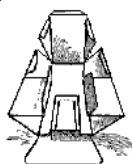
29. Folding the out-house.



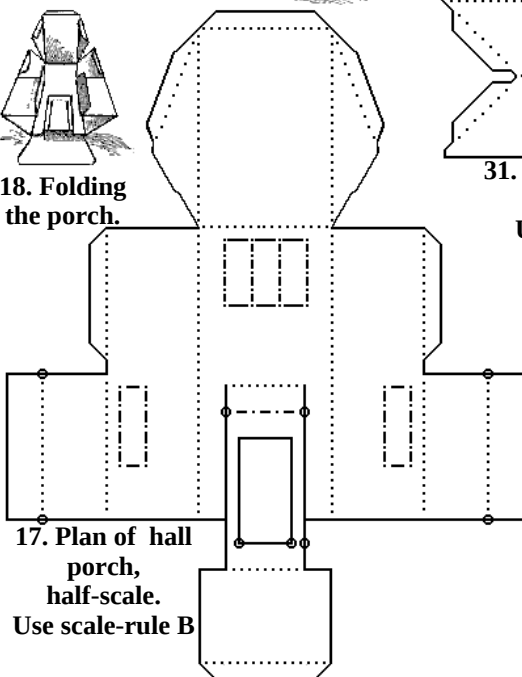
30. Out-house glued up



31. Plan of out-house, half-scale.  
Use scale-rule B

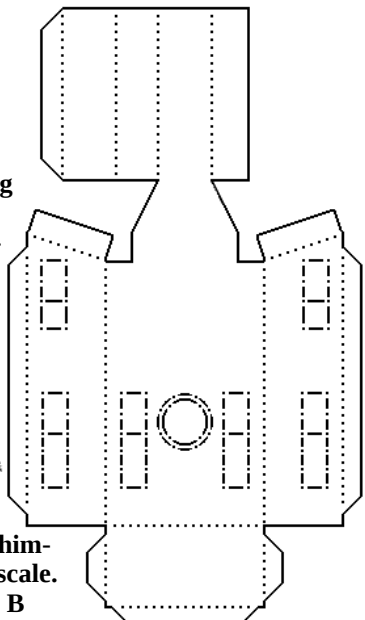


18. Folding the porch.



17. Plan of hall porch, half-scale.  
Use scale-rule B

23. Folding up the chimney-breast.

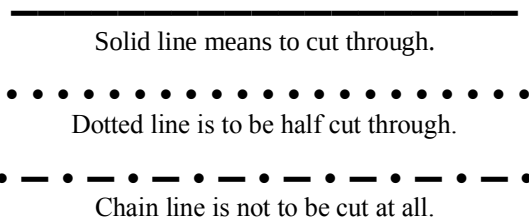


21. Plan of the chimney-breast, half-scale.  
Use scale-rule B



### Excerpt from “PREPARING FOR MODEL TOWN”

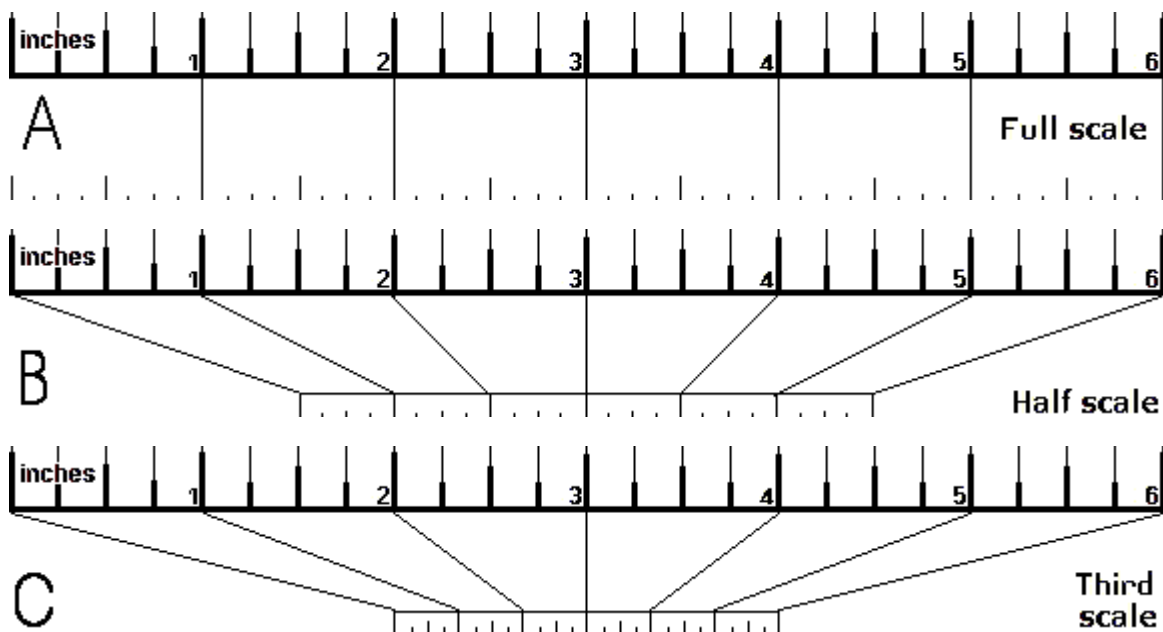
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



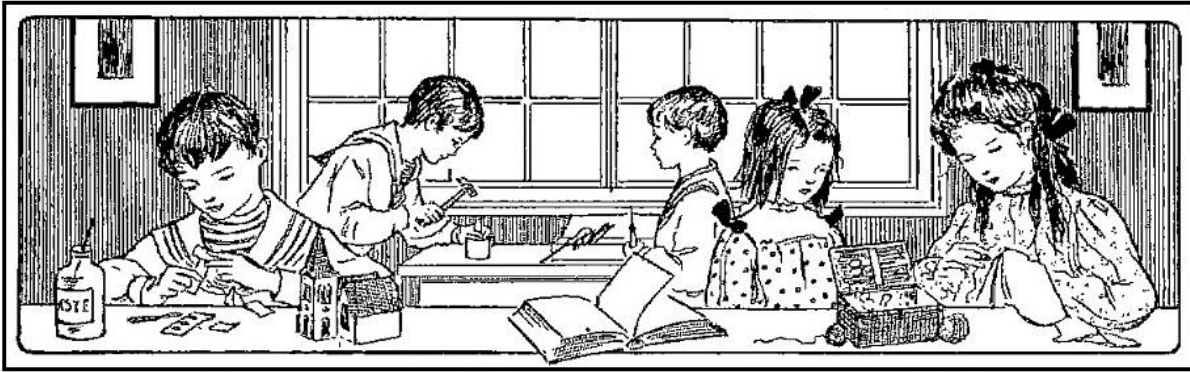
The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







**Modeltown  
an English Village**

**11. MAKING THE CHAPEL FOR MODELTOWN**

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<b>Description</b>	<b>pages 81 - 83</b>
<b>Plans</b>	<b>pages 85 - 86</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 87</b>
<b>Scale-rules</b>	<b>page 87</b>

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**References**

*Book of Knowledge*. (1911). v. 7, pp. 1502-1505; <https://archive.org/details/TheBookOfKnowledge7>  
*Children's Encyclopedia*. (1910). v. 2, pp. 978-981; [www.hathitrust.org](http://www.hathitrust.org)

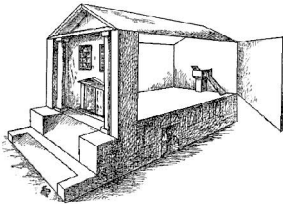


## MAKING THE CHAPEL FOR MODELTOWN

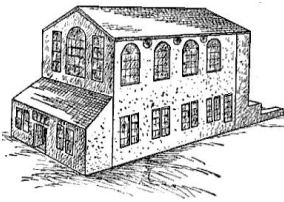
Modeltown Chapel is a much plainer edifice than Modeltown Church, yet it will give us good scope for neat and careful work. Our chapel is in two floors, the upper floor being the chapel proper, and the lower or basement floor being a hall to be used for lectures, Sunday-school, and many week-day meetings. Then we shall provide a small store-room at the back, where we shall suppose the heating furnace to be placed that will heat the water to circulate through the pipes in the chapel and the hall.

### 1. Chapel design showing the interior.

Picture 1 is a view of the chapel from the side, but it shows the front with its steps, pillars, and entrance-door; and the side is shown open, revealing the pulpit with its stair and reading-desk. Picture 2 represents the opposite side, and shows the store-room in the rear.



### 2. Chapel showing back.

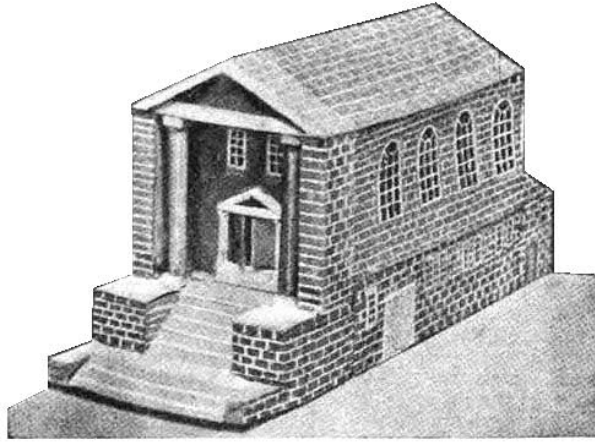


The main plan of the chapel is given in pictures 4 and 5. We draw both of these on card, remembering

the meaning of the three kinds of lines as explained in "Preparing for Modeltown." The pictures are one-third scale, so that we must make our drawings on the card by using scale-rule C to take the measurements from the picture, and the full-sized rule to make our lines on the card. Having cut out both pieces, we glue them together at the places marked **A** and **B** on each, the folding slip on the smaller piece being attached by glue to the edge of the floor of the larger piece.

We must be careful when cutting the dotted lines half through, because in many of them the half-cuts are made not upon the side of the card upon

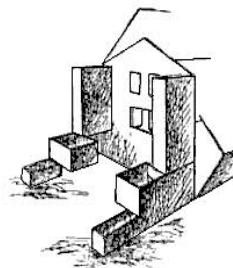
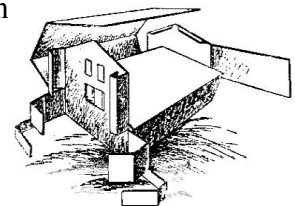
which the drawing has been made, but upon the opposite side, so that the bending may be done in the opposite direction. The lines which have to be half cut on the back of the card are those in the front portion of the building, and they are marked with a tiny circle at each end, so that we may recognize them.



Having cut out the card, and before we bend it up, we glue inside the walls, at the place marked floor-line, small slips of wood. Large wooden matches, from which the heads have been cut off, will do nicely. We shall glue two to the side wall to which the roof is attached, and one to each end wall. The purpose of these wood slips is to support the floor, as we shall see.

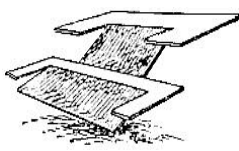
Now we can fold up the card to form the framework of the chapel. Picture 3 shows what it will be like as we do so. We must notice that the part marked floor in the plan folds right into the building and rests upon the wood splinters that we have glued to the far side and to the ends. We glue the ends to the roof, leaving the full side wall to open and shut, as seen in picture 1.

### 3. Folding up the walls.



### 7. Folding the front.

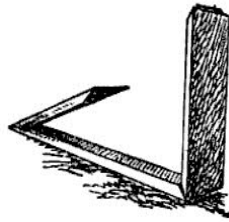
We must give particular attention to the front, bending the wings round as shown in picture 7. A touch of glue on the ends of the wings, where they touch the front of the chapel, will give them sufficient adhesion until the steps are put in. We must be careful to have the folded wings with their sides quite parallel.



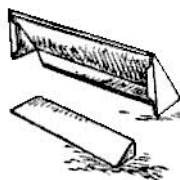
The staging to make the steps is given in plan in picture 6, which is half-scale, so that we use scale-rule B to take our measurements from the

**9. Folding front steps.** picture, and the full-sized rule on our card. The dotted line marked with a circle at each end is to be half cut on the back of the card to enable it to be bent in the opposite direction. Having cut and folded this part into the form shown in picture 9, we fit it into the front of the chapel, and its position and appearance, when fitted so, is shown in picture 1. As there is no floor in this part of the building, it is easy to fix the steps properly, as we can work at it from below.

In picture 1 we see at the top of the front of the chapel a triangular piece. This is called in architectural language a pediment. We shall now make and fix this piece. Its plan is shown, one-third scale, in picture 8, so that in drawing it **10. Folding pediment.** we use scale-rule C to take the measurements from the picture. As it is being folded up, after having been cut out, the pediment will be like picture 10. Now we place it in position and glue it above the square side pillars of the front, as seen in picture 1.



There is a smaller pediment above the chapel door, as may be seen in picture 1. The plan for this is given full size in picture 11, and we therefore make our model the same size as the plan. We bend it up exactly as we did the large pediment, and as seen in picture 10. We glue this above the door, as shown in picture 1. Then the step in front of the door is shown in plan in picture 12, which is given full size. When cut out and folded up, it will be as shown in picture 13, which shows it from the back as well as from the front. Its position below the door is **13. Doorstep folded.** seen in the general view in picture 1.



We now make neat round columns, or pillars, one for each side of the front door. The plan in picture

14, which is full size, is for both the tops and bottoms of the two round pillars seen in picture 1. We therefore draw this plan four times on our card, making it the same size as in picture 14. When being bent into position, the column ends will look like picture 15. The columns proper, which go between the top and bottom pieces, are made round by bending them round an ordinary lead pencil.

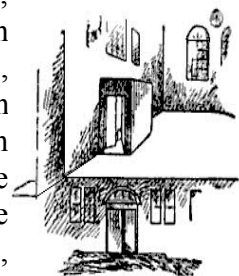
#### **15. Bending pillar end.**



#### **17. Shaping a pillar round a pencil.**

First we draw and cut out twice the plan in picture 16, to give us two columns. The picture is half-scale, so that we use scale-rule B to take our measurements, and the full-sized rule to make our lines on the card. Picture 17 shows the pillar being bent round the lead pencil. The card must be folded round the pencil tightly, and the last half-inch or so, where the card goes over itself, must be glued so as to make a tiny tube. We must be careful, however, to see that no glue goes on the pencil itself, or we should not be able to withdraw it afterwards. When the glue has set, we take out the pencil, which should be easily done. There would be no harm in leaving the pencil in the pillars if we cut it off so as to be the exact length of the card-board covering. We glue to the building the four small pieces which we made from the plan in picture 14. Their position is seen in picture 1. Then we put a little glue on the ends of the two pillars that we have made, and slip them into their proper places, as shown also in picture 1. That completes the structural part of the front.

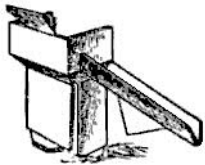
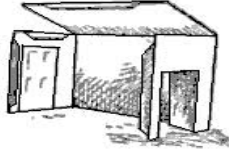
We now turn to the interior, and make the lobby. The plan of this is shown in picture 18, and its position, when completed and fixed, is seen in picture 19. The plan in picture 18 is half-scale, so that we use scale-rule B to take our sizes, but, of course, make our drawing with the full-sized **19. Position of lobby.** rule. When we have cut out the card and are



bending it up it will appear like picture 20, and when properly glued to the inside of the chapel at the door it will be like picture 19. As we left one side of the chapel wall to open, we can attach the lobby and also the pulpit that we are about to make without much difficulty.

#### 20. Bending the lobby.

We have now only the pulpit to make in order to complete the interior of the chapel. The plan is shown full size in picture 21. Therefore, when cutting it out, we use only the full-sized rule both for taking the sizes from the picture and in making the drawing. The pulpit, when being bent up, will be like picture 22.



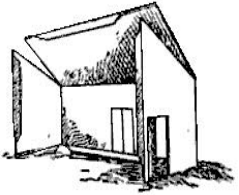
We must notice that the dotted lines with the small circles at end have to be half cut through on the opposite side of the card from the drawing, so as to be

**22. Bending pulpit.** bent in the opposite direction. The plan in picture 4 shows where the pulpit is to be placed, and picture 1 shows it glued into

position. To make the pulpit properly we must be careful to fit the corners neatly, because, if we do not join them exactly, the pulpit will look twisted. We could not expect a preacher in Modeltown to preach from a twisted pulpit.

#### 14. Bending store-room.

We have now only the store-room to make and attach. The plan in picture 23 is half-scale, so that we use rule B to take the measurements. When cut out and being folded up, the store-room will be as seen in picture 24, and when attached to the building the whole will look as seen in picture 2. This completes the building of our chapel. We can finish it in any way we find artistic. This style of building will look very well if the walls are made red, the windows the usual blue, the doors green, and the roof dark grey to imitate slate. The photograph is of a chapel made from the instructions which we have just followed.

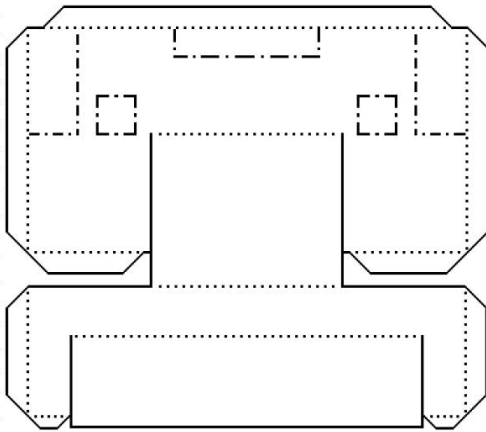


Our next task will be the building of a parsonage in which the minister in charge of our chapel may live.





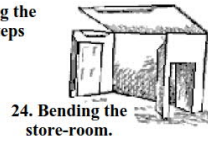
# PLANS FOR A CHAPEL IN MODEL TOWN, page 1



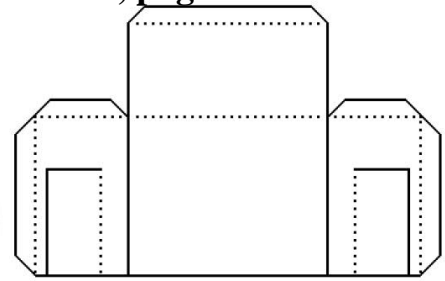
6. Staging for steps, half scale.  
Use scale-rule B



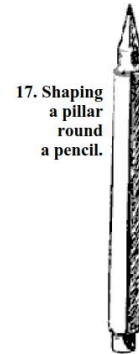
9. Folding the  
front steps



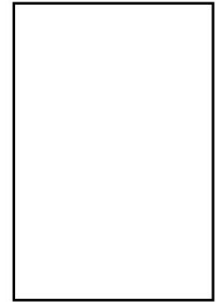
24. Bending the  
store-room.



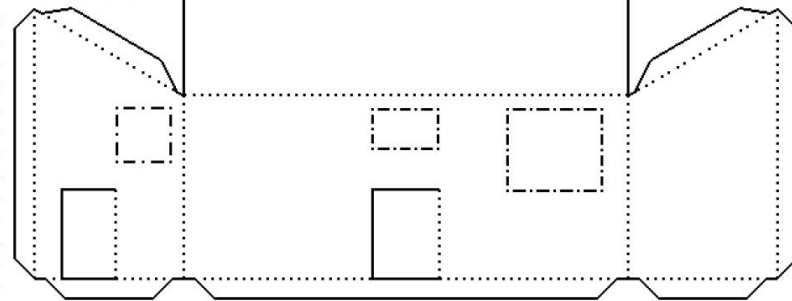
18. Plan of lobby, half scale. Use scale-rule B



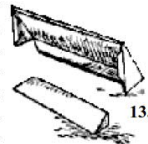
17. Shaping  
a pillar  
round  
a pencil.



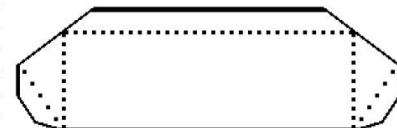
16. Plan of pillar, half scale.  
Use scale-rule B



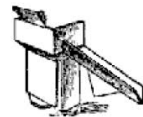
23. Plan of store-room, half scale. Use scale rule B



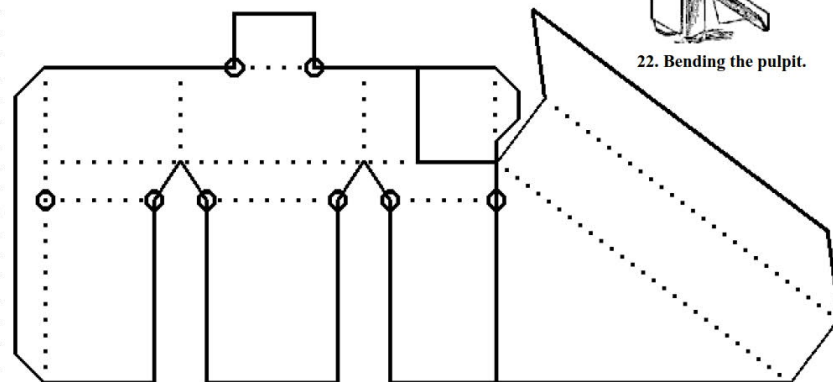
13. Doorstep folded.



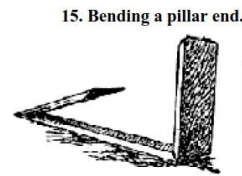
12. Doorstep, actual size.



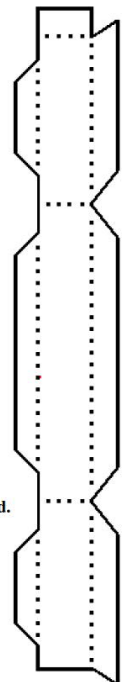
22. Bending the pulpit.



21. Plan of pulpit, actual size.



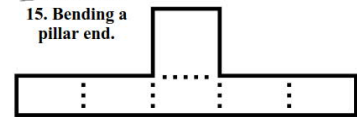
15. Bending a pillar end.



11. Plan of smaller pedi-  
ment, actual size.

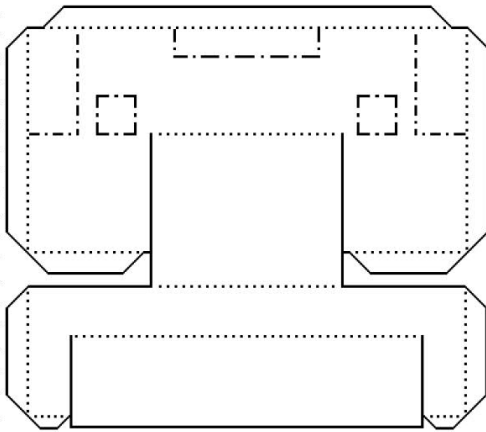


15. Bending a  
pillar end.



14. Pillar ends, actual size.

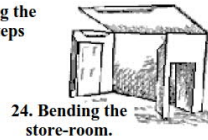
# PLANS FOR A CHAPEL IN MODEL TOWN, page 2



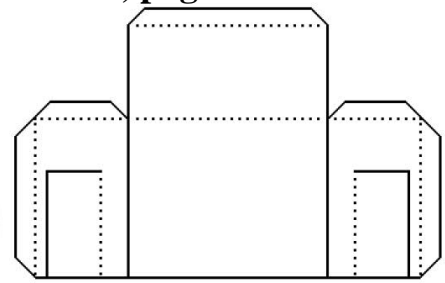
6. Staging for steps, half scale. Use scale-rule B



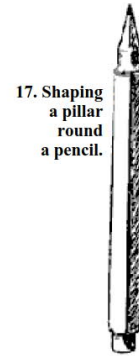
9. Folding the front steps



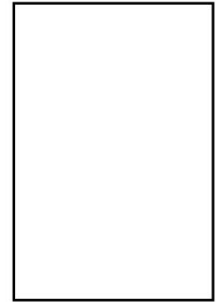
24. Bending the store-room.



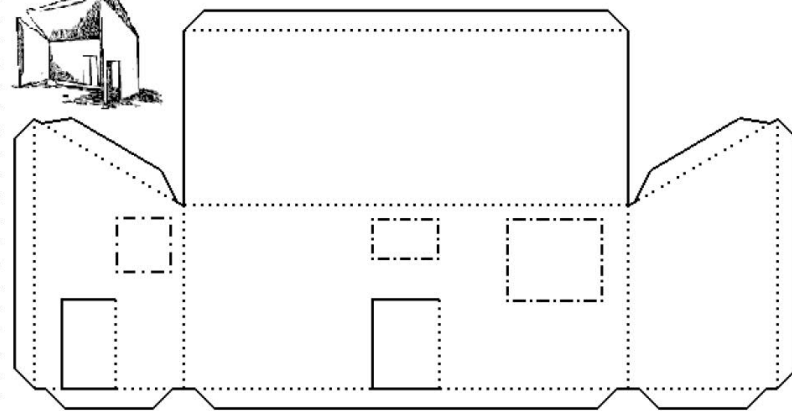
18. Plan of lobby, half scale. Use scale-rule B



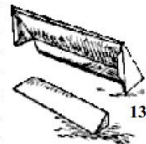
17. Shaping a pillar round a pencil.



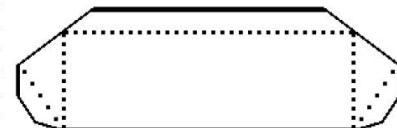
16. Plan of pillar, half scale. Use scale-rule B



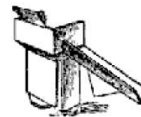
23. Plan of store-room, half scale. Use scale rule B



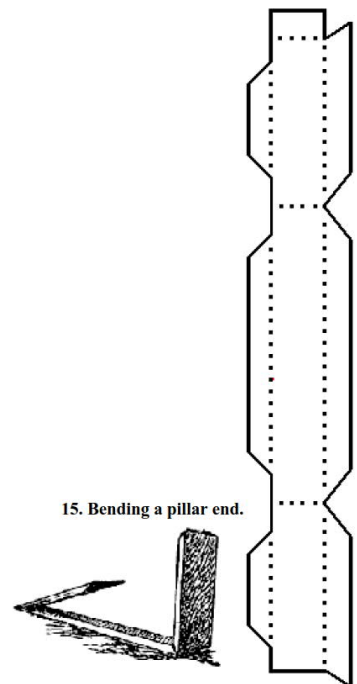
13. Doorstep folded.



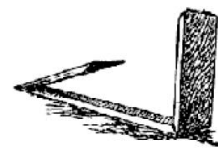
12. Doorstep, actual size.



22. Bending the pulpit.



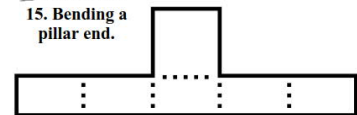
11. Plan of smaller pediment, actual size.



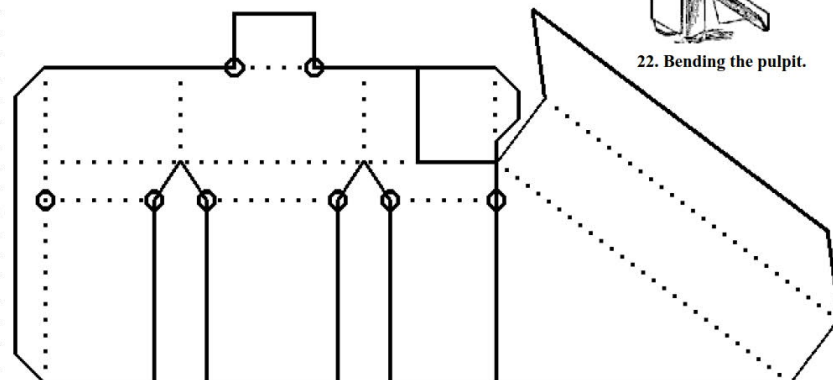
15. Bending a pillar end.



15. Bending a pillar end.



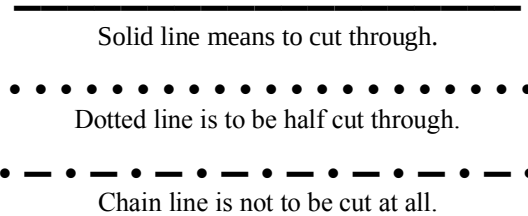
14. Pillar ends, actual size.



21. Plan of pulpit, actual size.

### Excerpt from "PREPARING FOR MODEL TOWN"

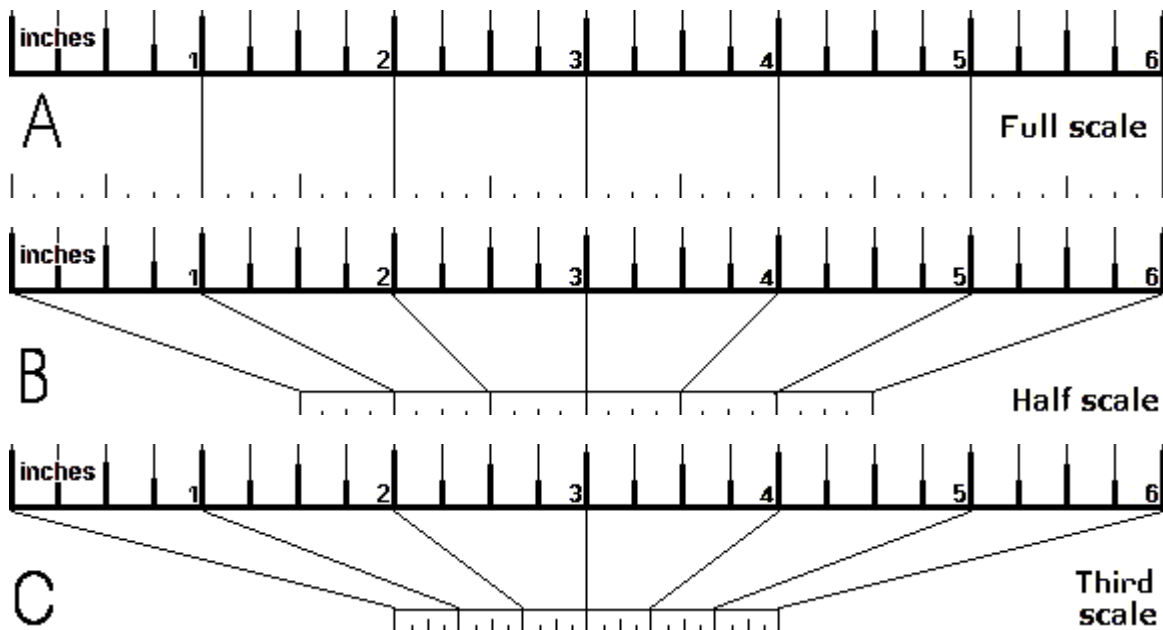
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







## **Modeltown an English Village**

### **12. MAKING A PARSONAGE FOR MODELTOWN**

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<b>Description</b>	<b>pages 91 - 92</b>
<b>Plans</b>	<b>page 93</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 95</b>
<b>Scale-rules</b>	<b>page 95</b>

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#### **References**

*Book of Knowledge.* (1911). v. 7, pp. 1611-1613; <https://archive.org/details/TheBookOfKnowledge7>  
*Children's Encyclopedia.* (1910). v. 2, pp. 1073-1075; [www.hathitrust.org](http://www.hathitrust.org)



## MAKING A PARSONAGE FOR MODELTOWN

[The *Book of Knowledge* and the *Children's Encyclopedia* may differ slightly. The *Children's Encyclopedia* (1910) has plans for a large vicarage between the Modeltown chapel and the parsonage. There are no vicarage plans in the *Book of Knowledge* (1911). The first paragraph of the *Children's Encyclopedia* parsonage mentions the vicarage and the *Book of Knowledge* version does not.]

First paragraph, *Book of Knowledge* (1912):

“One of our most important buildings was the Modeltown Church. Next we built a chapel, which was much simpler and easier to make. Our present task is the building of a house for the minister to live in. This house will be called the parsonage, and we shall make it how. There will be more parts to add than there were in the chapel, so that the work will be a little more difficult.”



First paragraph, *Children's Encyclopedia* (1910):

“Our first task after building Modeltown Church was to build a vicarage, in which the clergymen attached to the church could live, and our first task after building the chapel will be to make a house for the chapel minister. This will be the parsonage, and we shall make it now. There will not be so many parts to add to it as there was in the vicarage,

so that the work will be a little simpler.”

General views of our parsonage are given in pictures 1 and 2. Picture 10 gives a plan of the building, and is made one-third scale, so that in taking our sizes from the picture we use scale-rule C, which was given away with the *Children's Encyclopedia*, and make the lines on our card with our full-sized scale-rule. We remember, of course, the explanation given on “Preparing for Modeltown” regarding the meaning of the three different kinds of lines in the plans, so that we need not go over the meaning of these lines again.



1. Modeltown Parsonage



2. Parsonage from hall side.

We draw on card and cut out the plan of the parsonage as shown in picture 10. As we bend it up into shape it will assume the position shown in picture 3. When we have glued the two sides to the back wall we shall have it like picture 4. Continuing a little further, we glue the triangular piece to the low sloping roof, and we see what it should be like in picture 5. Picture 6 represents a further stage, with one of the remaining walls glued to the low sloping roof, and finally picture 7 gives us a view of the framework glued together, leaving only one part to hinge open. We now see the meaning of the many



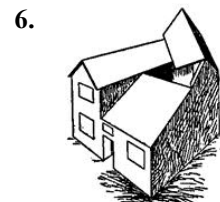
3. Folding up the walls.



4. Sloping roof position.

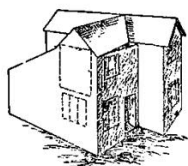


5. Main roof position.



6. Folding almost complete.

curiously-shaped portions of 7. the plan in picture 10.



**Parsonage folded, glued.**

Every part has been carefully planned, and we find that many things which seemed at first to have no relation to each other fall into harmony and make a complete whole.

When we have glued the two sides to the back wall we shall have it like picture 4. Continuing a little further, we glue the triangular piece to the low sloping roof, and we see what it should be like in picture 5. Picture 6 represents a further stage, with one of the remaining walls glued to the low sloping roof, and finally picture 7 gives us a view of the framework glued together, leaving only one part to hinge open. We now see the meaning of the many curiously-shaped portions of the plan in picture 10. Every part has been carefully planned, and we find that many things which seemed at first to have no relation to each other fall into harmony and make a complete whole.

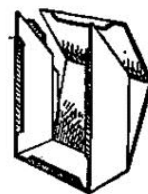
We shall now make and add a hall, with a bedroom upstairs. The plan of this part is given half-scale in picture 12. We therefore take our measurements with scale-rule B, making our lines on the card with our full-sized rule. In bending up the hall before gluing, it will assume the position shown in picture 8. We glue the roof to the sides, and then we attach the whole piece to the place in the wall marked on the plan in picture 10, again using glue to fix it in position.



**8. Bending up the hall.**

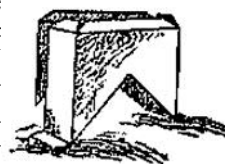
To the bedroom of the minister's study we shall attach a projecting extension, which will provide room for a nice window-seat and also extend the view obtainable. The plan of this extension is given in picture 9, which is also half-scale so that we again use scale-rule B. Picture 15 shows this piece from the inside as it is being bent up. After we have glued the slips of the sides to the front

and allowed them to set hard, we glue the piece to the wall of the house in the place marked on the plan in picture 10. The view of the parsonage given in picture 2 shows the bay-window in its proper position.



**15. Bending up window extension.**

The chimney comes next. Its plan in picture 11 is full size, so that we must use the full-sized rule both for taking the measurements from the picture and for making the drawing, or we may trace the plan, as we have seen how to do in "Preparing for Modeltown". In picture 16 the chimney is seen in the act of being folded. We have had good practice in making and fixing chimneys, so we know how to do it well. The two dotted lines which in plan 13



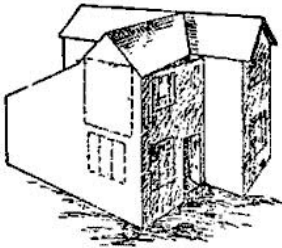
16. **Folded chimney.** have a small circle at each end are cut half through, not on the side of the card on which the drawing is made, but upon the opposite side. In the plan in picture 10 is seen the place where the chimney must be glued on. There now remain only the two porch-covers to be made and put on. Their positions when fixed are seen in pictures 1 and 2, and the plans of them are given full size in pictures 13 and 14. We cut them out and glue them into place, and our parsonage is complete.

We shall have the parsonage with a red roof to imitate tiles, and we have already seen in previous lessons how to paint the roof red. Then, as usual, we shall make the windows a dark blue, to look like glass, and we shall leave the walls white, merely putting red lines round the doors and windows where the wood framing would be if the house were real. The doors themselves we shall have red also, and the two porch-covers we shall have green, as they would be wood in a real house. The roof of the bedroom extension, however, we shall make red, like the roof. The photograph is of a parsonage made as we have described.

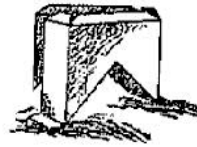
We shall next begin to make Modeltown Farm, which will require three lessons.



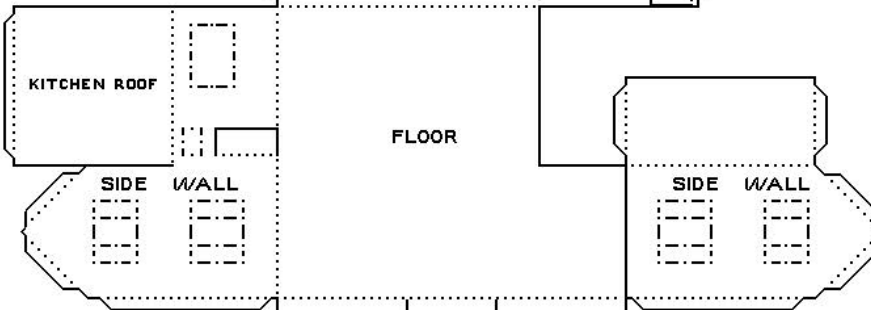
# PLANS FOR MODELTOWN PARSONAGE



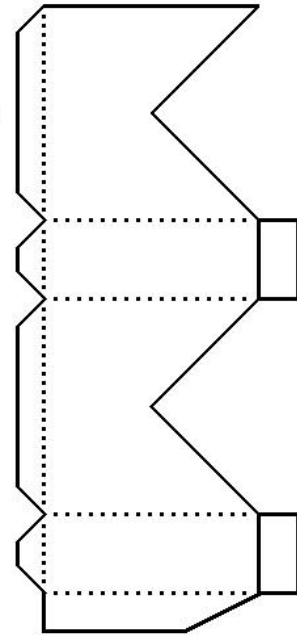
7. Parsonage folded and glued.



16. Folded chimney.

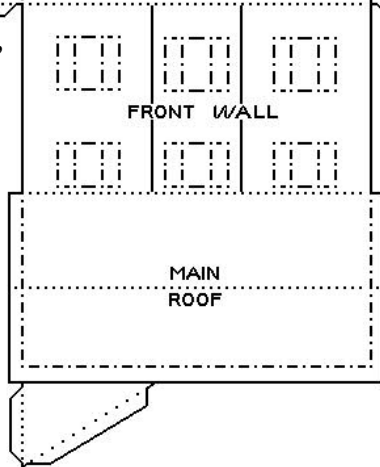
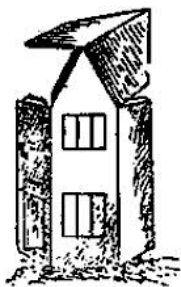


10. Plan of parsonage, one-third scale. Use scale-rule C

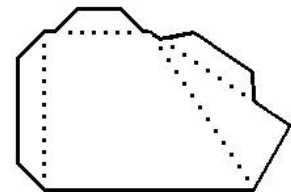


11. Plan of chimney, actual size.

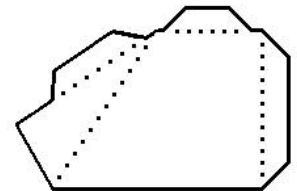
8. Bending up the hall.



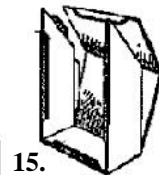
12. Plan of hall extension, half-scale. Use scale-rule B



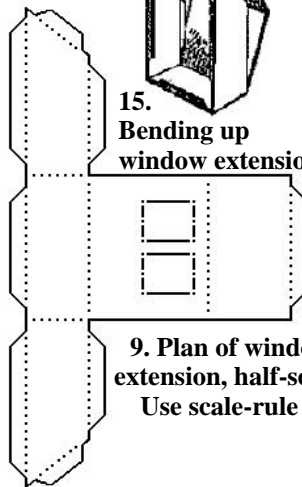
13. Plan of porch, actual size.



14. Plan of porch, actual size.



15. Bending up window extension.



9. Plan of window extension, half-scale. Use scale-rule B

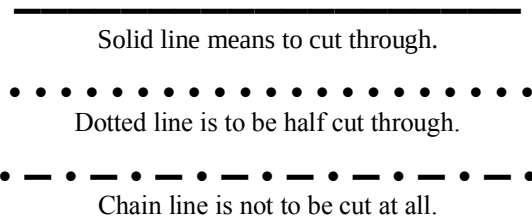
Photograph of Modeltown Parsonage





### Excerpt from “PREPARING FOR MODEL TOWN”

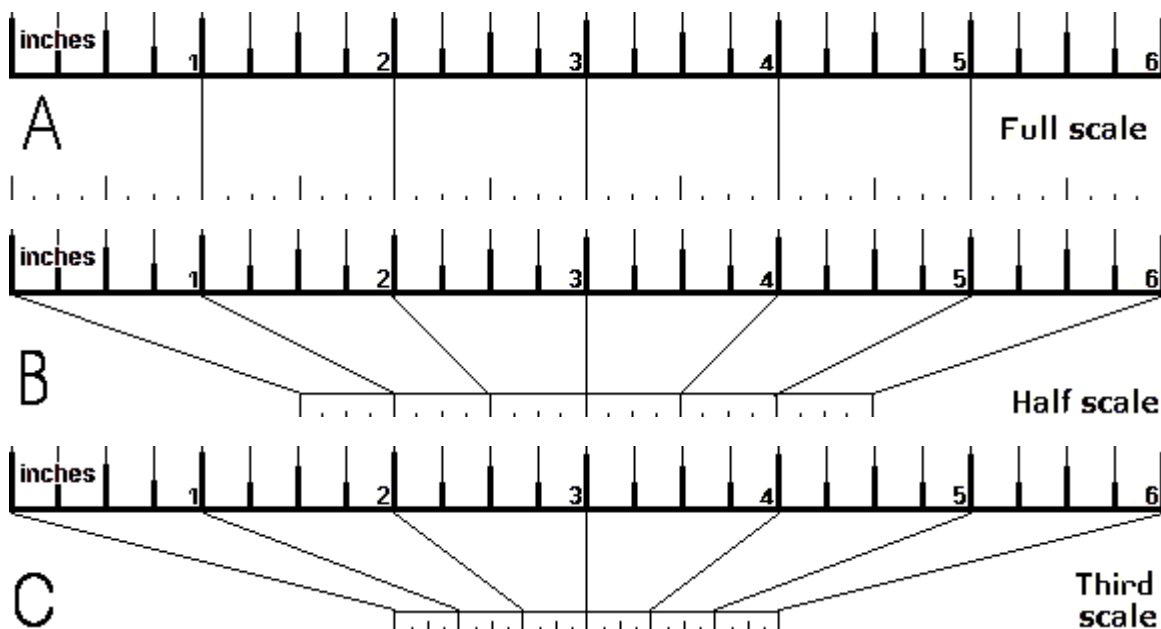
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



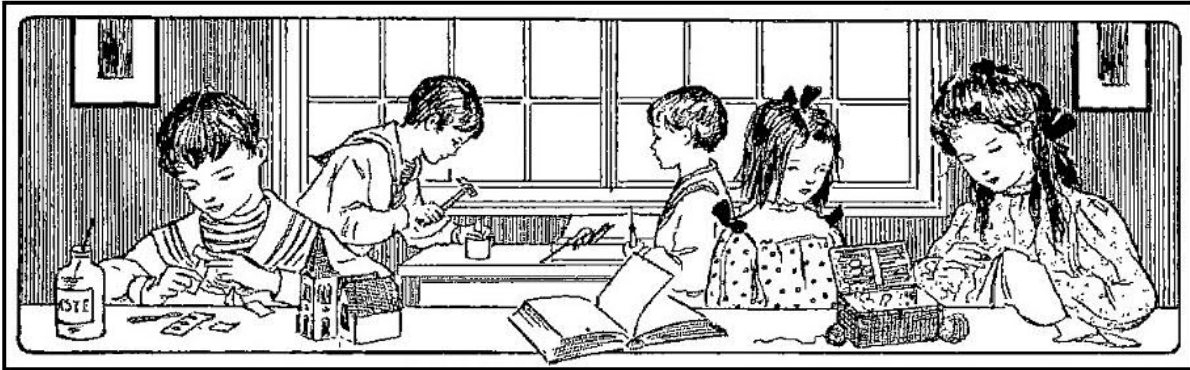
The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







## Modeltown an English Village

### 13. MODEL TOWN FARM

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#### [Part 1] Making of Modeltown farm.

Description

pages 99 - 101

Plans

pages 102 - 104

#### [Part 2] Continuing Modeltown farm.

Description

pages 105 - 106

Plans

pages 107 - 109

#### [Part 3] Completing Modeltown farm.

Description

pages 109 - 110

Plans

pages 113 - 114

Excerpt of "Preparing for Modeltown"

page 115

Scale-rules

page 115

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#### References

##### [Part 1] Making of Modeltown farm.

*Book of Knowledge.* (1912). v. 4, pp. 1199-1202; <https://archive.org/details/bookofknowl-edg04mee>

*Children's Encyclopedia.* (1910). v. 2, pp. 1184-1187; [www.hathitrust.org](http://www.hathitrust.org)

##### [Part 2] Continuing Modeltown farm.

*Book of Knowledge.* (1911). v. 6, pp. 1282-1284; <https://archive.org/details/TheBookOfKnowl-edge6>

*Book of Knowledge.* (1912). v. 4, pp. 1282-1284; <https://archive.org/details/bookofknowl-edg04mee>

*Children's Encyclopedia.* (1910). v. 2, pp. 1282-1284; [www.hathitrust.org](http://www.hathitrust.org)

##### [Part 3] Completing Modeltown farm.

*Book of Knowledge.* (1911). v. 6, pp. 1351-1354; <https://archive.org/details/TheBookOfKnowledge6>

*Children's Encyclopedia.* (1910). v. 3, pp. 1351-1354; [www.hathitrust.org](http://www.hathitrust.org)

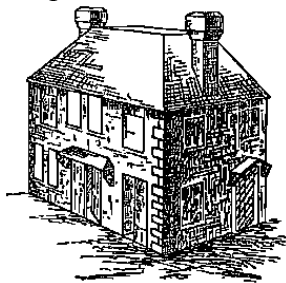


## THE MAKING OF MODEL TOWN FARM

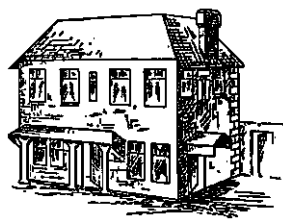
We have gone ahead rapidly with our buildings in Modeltown, though we have still a good deal to do before the town is complete. But perhaps many of us are thinking of the country more than of the town, with its brick walls and noisy traffic. Perhaps the hedges and the brooks, the singing of birds and the rustle of green leaves have much greater attraction for us.

So we shall depart from the task of building town buildings for a few weeks; we shall build and lay out a farm, so that our dwellers in Modeltown may get a good deal of their produce near at hand. Our farm will be put down just on the out-skirts of Modeltown, and we shall not allow the enterprising builder to cut up our fields by putting up his great buildings where we wish to have meadows with lowing kine and waving fields of yellow corn.

A farm is rather a big undertaking, and we cannot do it all at once. So we shall divide the farm into three parts, making one part of it now, and leaving the remainder for the next two sections of the *Children's Encyclopaedia*. The part which we shall make now will consist of the farmhouse, in which the farmer with his family and servants may live, and a dairy, in which the milk is stored, the cream is allowed to come to the top, and the cheese is made. Afterwards we shall make a cow-house, a stable, a store, a barn, a poultry-house, and the other things that help to make a farm complete.



1. Front of farm-house

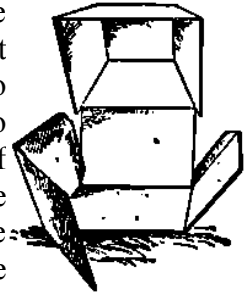


2. Back of farm-house.

The farmhouse we are about to make is seen in pictures 1 and 2. Picture 1 shows the front of the house, and picture 2 is a view of the back, which looks out upon the farm-yard. Picture 4 is a plan of the farmhouse, which is given half-scale, so that we take the sizes from the picture with scale-

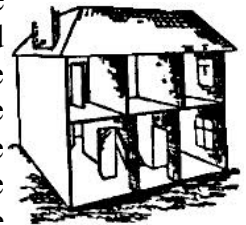
rule B, and use our full-sized rule to make the drawings on our card. We know well, by this time, how we are to treat the three different kinds of lines, which we had explained first in "Preparing for Modeltown", so we shall not have them explained again here. Where there are crosses like this X in the picture, we make pinholes right through the card.

Having drawn on the card the plan of the farmhouse, we cut it out, and then proceed to bend it up. The first thing is to bend the four sides of the roof together, and to bend over the three slips at the front of the three free edges. When we have bent over these three edges, we find that the ends overlap each other. We glue them together there, using the glue rather thick for preference.



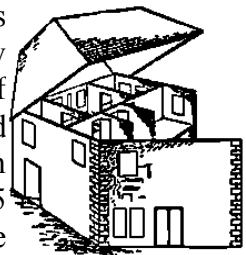
3. Bending up farmhouse.

This will give us a roof the shape of a deep tray held upside down, and we shall be able to lift up the roof to see inside the house whenever we wish. The appearance of the roof when glued as we have described is seen in picture 3, which also shows the position



5. Farmhouse with floors and partitions.

of the other walls as we are bending them up. We glue the edges of the wall together, but leave the front wall to hinge open as seen in picture 6. We now proceed to divide the inside of the house into two stories and into different rooms, as seen in pictures 5 and 6. Picture 5 shows the partitions in place as we would see them if the hinged front wall were right off, and picture 6 shows the inside from above, with the roof raised and the front wall hinged open a little bit.



6. Farmhouse with roof and wall open.

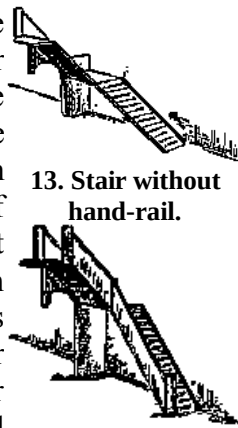
We have already made some pinholes through the walls and floor of the farmhouse before we bent

them up. We now glue wood splinters inside the house where these holes are. Large wooden matches with the heads cut off will do nicely. The purpose of these wood splinters or matches is to support the upstairs floor, and to provide something on the floors to which the partitions may be glued.

The next thing to make and cut out is the first floor, the plan of which is given half-scale in picture 7, so that we use scale-rule B in taking the sizes from the picture. Then we make the partitions for the ground floor, the plans of which are in pictures 8 and 9. We glue the first floor into place, and then the two partitions, gluing the bottoms of the two partitions to the wood splinters we have already glued to the ground floor. Picture 5 shows the position of the partitions after they have been fixed.

The stair that goes from the ground floor to the first floor can now be taken in hand. The plans of the three parts to make the stairway are given in pictures 10, 11, and 12, all of which are actual size, so that we use our full-sized rule both for taking the measurements from the pictures and for making the drawings on our card. We bend these pieces and fit and glue them together, all as seen in pictures 13 and 14. We now see that picture 10 is the actual stairway, picture 11 is the stair-railing, and picture 12 is the support to which we attach the stair to make it retain its proper shape. Now the completed stairway must be glued to the ground-floor partition inside the house as indicated in picture 5. The stair will lead up to the hole left for it in the upstairs floor, and it should fit this neatly. The making and the fixing of the stair is the most difficult part of the whole building, so that if we have succeeded in doing it neatly we have done very well indeed, and the rest will be much easier.

The partitions for the upper floor have still to be made and fixed. The plan of the long center partition is given half-scale in picture 15, and to

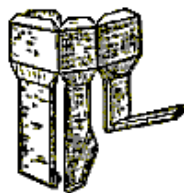


13. Stair without hand-rail.

14. Stair with hand-rail.

draw it we use scale-rule B. After cutting it out it is glued into place along the line running right across the first floor, and is glued to the first floor and to the side walls of the house. Pictures 16 and 17 are the plans of the two partitions for the back of the house, which go one on each side of the head of the stair, and pictures 18 and 19 are the plans of the two front partitions. We make all these the same size as in the pictures, and glue them into their correct places as seen in pictures 5 and 6.

We have now finished the inside of the farmhouse, but have still a few things to do on the outside. Picture 20 is the plan of the porch for the front door, which we make the same size as in the picture and fix above the front door, as shown in picture 1. Similarly we make the side-door porch, the plan of which is given full size in picture 21, and glue it above the side door as shown in picture 1 also. Then picture 22 is the plan of a long porch which makes a covered way leading to the dairy, which we shall make afterwards. The plan is full size, so that we make it the same size as in the picture, and glue it above the door as seen in picture 2.



23. Bending up chimney.

Our farmhouse will have two chimneys, both alike. The plan of the chimneys appears in picture 23. It is full size. We therefore make two drawings the same size as the picture, and, after cutting them out, bend them up as seen in picture 24. The

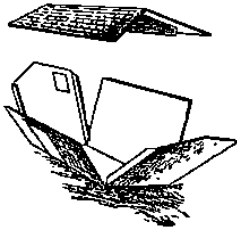
positions for the chimneys are indicated by two chain lines in the plan of the farmhouse in picture 4. The chimneys, when bent up and glued, must be glued to the roof at these lines.

We have still to make the verandah at the back of the farmhouse, as seen in picture 2. The plan of the verandah is given full size in picture 25. We make it and glue it into its place, which is shown by a chain line in the plan in picture 4. The farmhouse is now complete, but we have still the dairy to make.

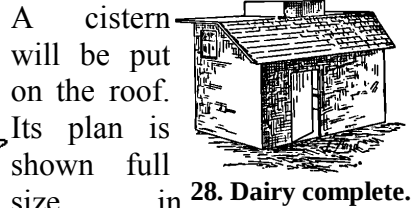
A well-appointed dairy should be detached from the farmhouse, but for convenience it may be very near it. We have already made and attached to the



farmhouse a short covered way to lead to the dairy, and our dairy, when made, will be attached to the other end of this covered way. First we shall make the dairy itself. It is shown in picture 28, and its plan is We use scale-rule B to take the sizes, and the full-sized rule to make our drawing. Then we make the roof, the plan of which, also half-scale, is given in picture 26. Picture 30 shows the dairy being folded into position with the roof above it.



**30. Folding up dairy.**



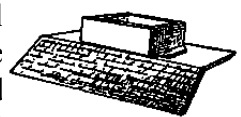
**28. Dairy complete.**

A cistern will be put on the roof. Its plan is shown full size in picture 29; its appearance when being bent into shape is seen in picture 31; and its position on the roof in picture 32. Finally, picture 28, which we have already seen, gives a view of the dairy when finished. The roof is made to lift off.

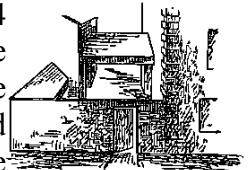


**31. Bending up cistern.**

The wall and the dairy shed are the last things that we have to make. Picture 33 gives the plan of these half-scale. Using scale-rule B, we make our drawing, cut it out, and then bend it up as indicated in pictures 34 and 35. Now we can glue the end of the low wall to the farmhouse, the end of the shed to the dairy, and the end of the covered way to the dairy. The first part of our farm is complete, except for the painting.

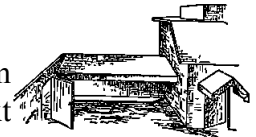


**32. Dairy cistern.**



**33. Dairy complete.**

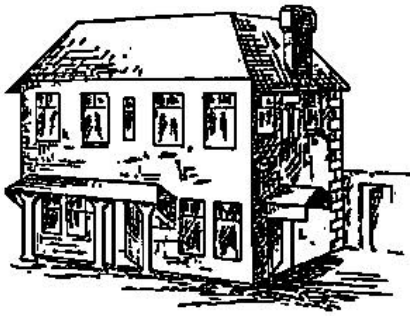
We shall carry our farm buildings a step farther next time.



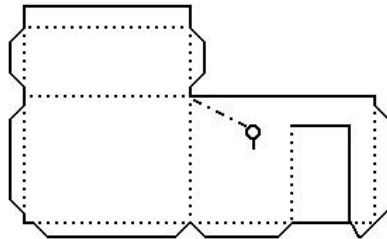
**34. Wall and dairy shed from inside.**



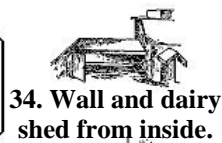
# PLANS FOR THE MAKING OF MODEL TOWN FARM, page 1



2. Back of the farmhouse.



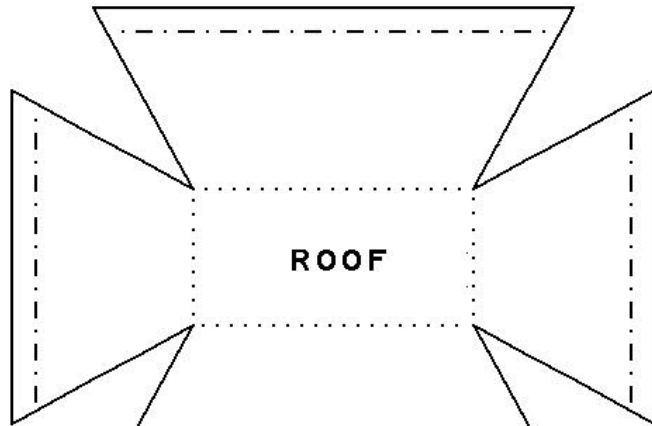
33. Wall and dairy shed, half-scale.  
Use scale-rule B



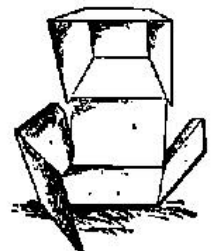
34. Wall and dairy shed from inside.



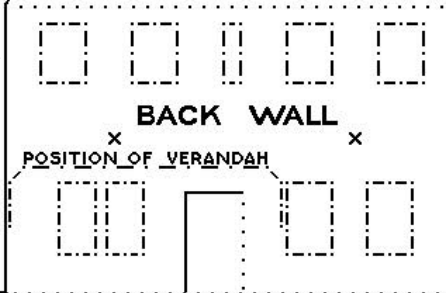
35. Wall and dairy shed from outside.



ROOF

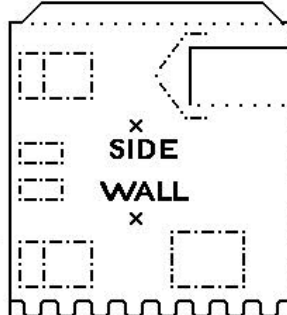


3. Folding up the farmhouse.

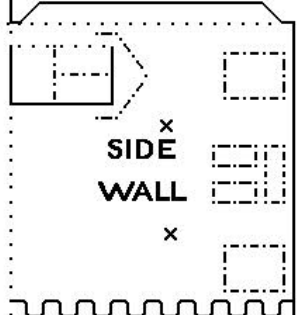


BACK WALL

POSITION OF VERANDAH

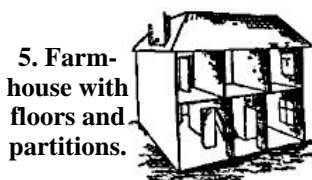


SIDE WALL



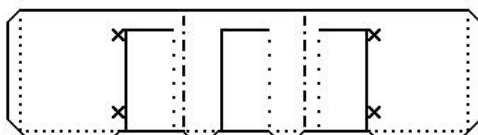
SIDE WALL

FLOOR

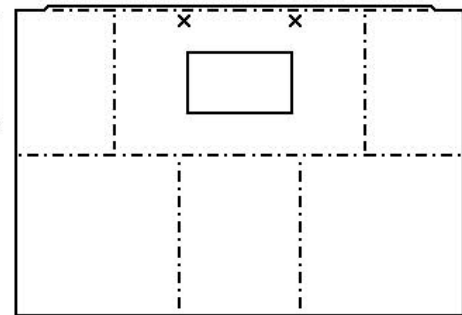


5. Farmhouse with floors and partitions.

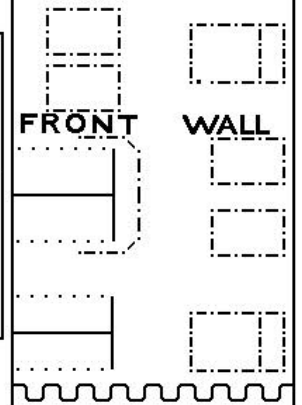
4. Plan of farmhouse, half-scale. Use scale-rule B



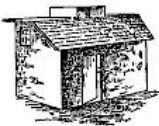
15. Plan of partition, half-scale.  
Use scale-rule B



7. Plan of first floor, half-scale.  
Use scale-rule B



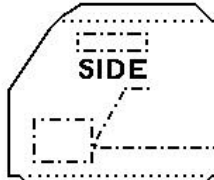
FRONT WALL



28. Dairy complete.



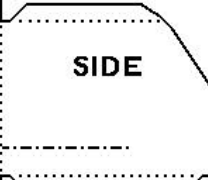
FRONT



SIDE



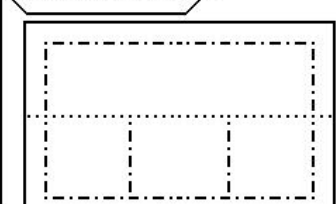
FLOOR



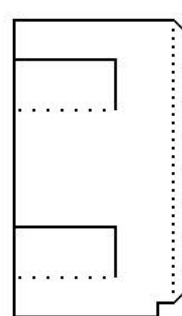
SIDE



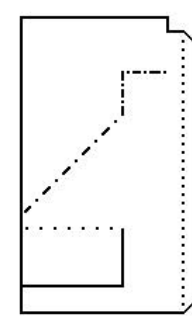
BACK WALL



26. Plan of dairy roof, half-scale. Use scale-rule B



8, 9. Partitions, half-scale. Use scale-rule B



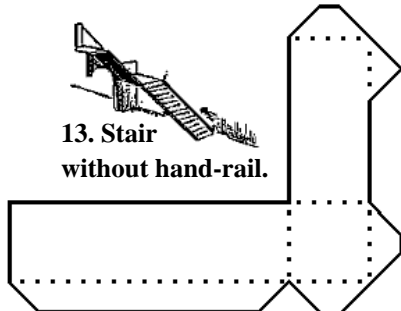
30. Folding the dairy.

27. Plan of dairy, half-scale. Use scale-rule B

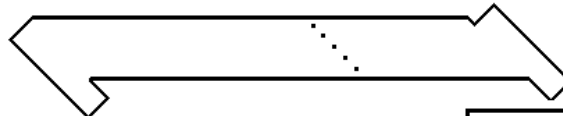
## PLANS FOR THE MAKING OF MODEL TOWN FARM, page 2



13. Stair without hand-rail.



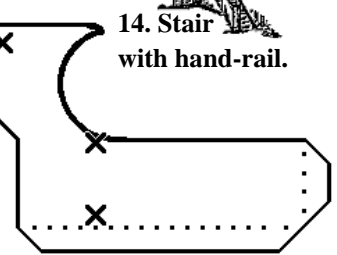
10. Plan of stair, actual size.



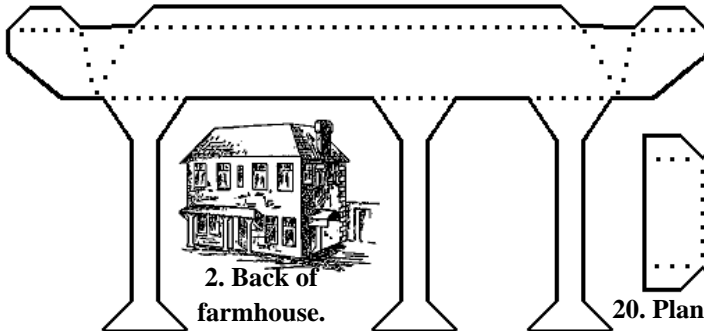
11. Plan of stair-railing, actual size.



14. Stair with hand-rail.

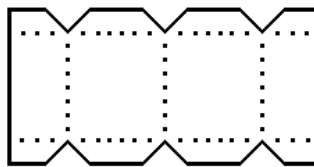


12. Plan of stair-support, actual size.

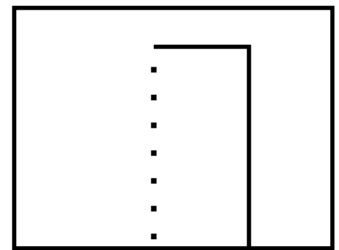


2. Back of farmhouse.

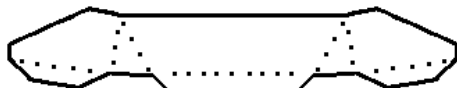
25. Plan of verandah, actual size.



20. Plan of covered way, actual size.



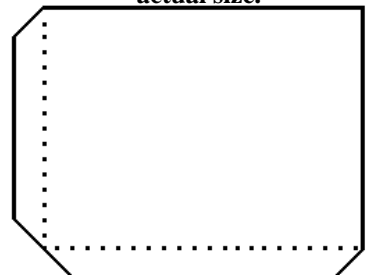
16. First-floor partition, actual size.



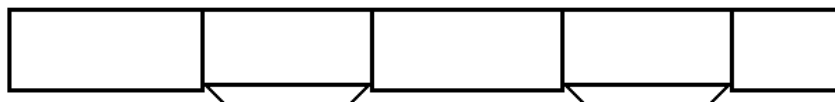
22. Plan of porch, actual size.



21. Plan of side porch, actual size.



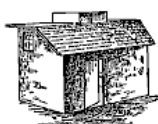
18. First-floor partition, actual size.



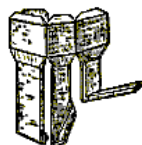
29. Plan of cistern for dairy roof, actual size.



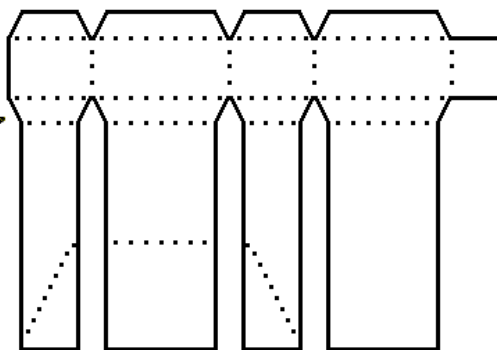
31. Bending the cistern.



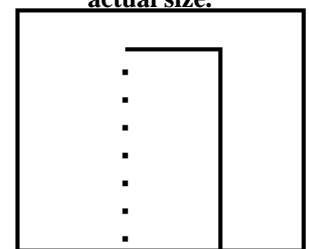
28. Dairy complete.



24. Bending up the chimney.



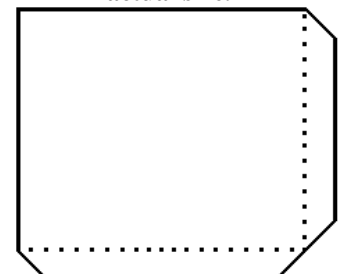
23. Plan of chimney, actual size.



17. First-floor partition, actual size.



32. Dairy cistern fixed.



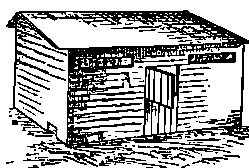
19. First-floor partition, actual size.

6. Farmhouse with roof and wall open.

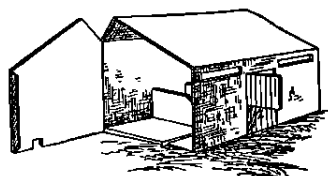


## CONTINUING MODELTOWN FARM

We have made the farmhouse and the dairy, and can now devote our attention to the outbuildings. The first of these will be the cow-house, which is shown in pictures 1 and 2, the latter representing it open.

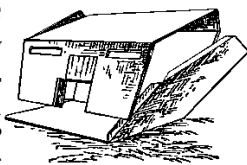


1. The cow-house.

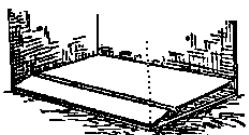


1. Cow-house showing interior.

The interior of the cow-house will be carefully fitted with a special floor, and with stalls for the animals. The end shown open will not be glued to the walls, so that it may be opened at any time so as to allow the interior to be inspected. Picture 3 gives the plan of the cow-house, and is made half-scale, so that in making our drawing we use scale-rule B to take the measurements, and our full-sized rule to make our lines on the card. Having made and cut out the plan we fold it up, and picture 4 is a view of it as it is being folded up. Picture 5 is a plan of the inside floor, which must be made and fitted inside the floor in the main plan. It may be made out of thin card or thick notepaper. The drawing is half-scale, so we use scale-rule B for taking the measurements. Two of the dotted lines in the plan have small circles at their ends. These lines are to be half cut through, not on the side of the drawing, but on the back of the card. If we use notepaper instead of card, we need not cut them half through at all; it will do if we bend them from the opposite side of the paper.



4. Folding the cow-house.



6. Fitting cow-house floor.

Picture 6 indicates the way in which the false floor should be folded and fitted. The long gutter is for purposes of drainage, and every well-appointed cow-house has a gutter for drainage. Picture 2 also shows one end of the gutter. We may make three stall partitions if we wish to complete the cow-house inside. We can easily take the sizes for ourselves, hence no

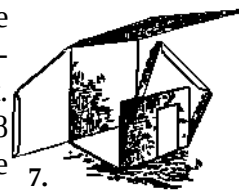
plan of them is shown. They should be glued on at the chain lines shown on the plan of the floor given in picture 5. The stall partition nearest to the hinged wall may be seen in picture 2.



9. Completed calf shed.

Let us take the calf-shed next.

Picture 8 gives the plan, which

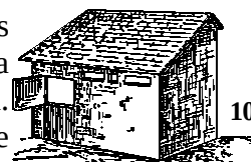


7.

Folding calf shed.

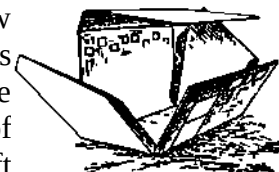
is half-scale, so that we take the measurements with scale-rule B. When cut out and being folded up the calf-house will be like picture 7, and when completed and glued it will be like picture 9. It is very easy indeed to make. The back of it can be left open. There is no window in the calf-house, as young calves are usually kept in a gloomy or dark place, which must, however, be warm. They are allowed to lie on straw, and no special inside fitting is necessary.

On a farm the horses are as important as the cows, and a stable must be provided.

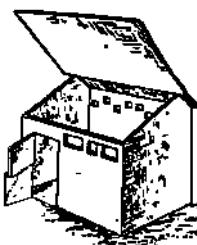


10.

Picture 10 is a view of the stable, and picture 11 is the plan half-scale. As the inside of the stable will be seen, we can make the windows on both sides of the card. Again we use scale-rule B, and, after making and cutting out the plan, fold it up, when it will assume the position shown in picture 12. At the crosses marked in the plan, pinholes should be made, and these will show where the stall divisions inside may be put. The stable roof can be left unglued at



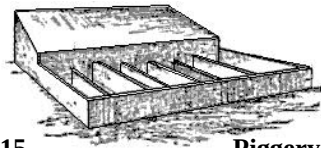
12. Folding the stable.



13. Stable showing interior.

nearly all stable doors do. Two stall partitions are necessary, and the plan is given full size in picture 14. The pinholes indicate where they must be glued into

position. The stable will hold three horses, which would be enough for a small farm ; but if we decide to keep more horses we can make another stable, or even several others, the same as that we have already made.



15.

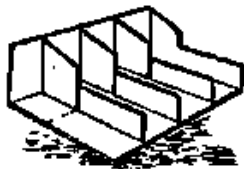
**Piggery.**

Our farm will have a good many pigs, so we shall make four pigsties in one row, as seen in picture 15. Picture 16 is the plan, and is half-scale. Pin-holes must be made at the crosses to show where the partitions go. After being made by using scale-rule B to take the measurements, the sties fold up as shown in picture 17. But before gluing the roof to the walls, the partitions



**Folding the pigsties.**

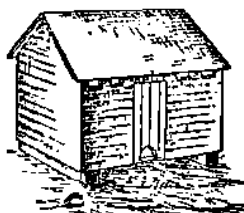
must be fitted. The plan of a partition is given full size in picture 18. This must



19. Pigsty partitions.

be made three times, and the inside partitions placed where the pinholes were made. Picture 19 also shows where the partitions go.

Now, after putting a touch of glue on the top and front edges of the partitions just fixed, the long front wall of the enclosed compartments may be folded over and glued down. The front wall of the open space should now be bent up and glued to the two side walls. There remain the partitions in the open space to be made and fixed. Each partition may be made with a trough, the two being made in one piece. Picture 20 is a plan of a partition and trough; it is full size in the picture. We make it three times, and glue the three pieces into place as drawn in picture 19. The pigsty is now quite complete.



25. Hen-house. shed.

would be complete. Picture 25 shows our hen-house. It is raised above the ground so as to keep the

We have given attention to the cows, horses, and pigs; it is proper now to attend to the hens and chickens, without which no farmyard

**folded up.**



chickens dry. The plan of the hen-house is given full size in picture 21, and we therefore make it the same as shown. Two pinholes made where there are crosses in the picture will show where to put the perches inside. The roof of the hen-house is given in full-sized plan in picture 22, and the strut of the roof, which we must make twice, in picture 23. The struts are glued inside the roof along the lines marked in the plan of the roof. The hen-house as it is being folded up and the roof above it are shown in picture 24, and the completed hen-house is in picture 25. Two splinters of wood, such as large wooden matches with the heads cut off, may be glued to the bottom of the hen-house underneath, and will keep the structure off the ground. Two splinters of wood cut to the proper size may also be put inside the house where the pinholes were made. They will do duty as perches for the fowls. They may be glued into place, or pins may be pushed through the walls of the house through each end of each perch to support them. We shall provide a ladder to the higher perch, and its plan is given full size in picture 26. One end is glued to the floor, and the other end to the perch. The roof of the hen-house will be left to lift off.

Modeltown Farm will have two dogs, and therefore two kennels. We have already made a kennel when we built our villa, so we know how to do it well. Picture 27 is the plan of a farm kennel, and is full size. We make two drawings of picture 27, cut them out, fold them up as



29. Kennel complete.

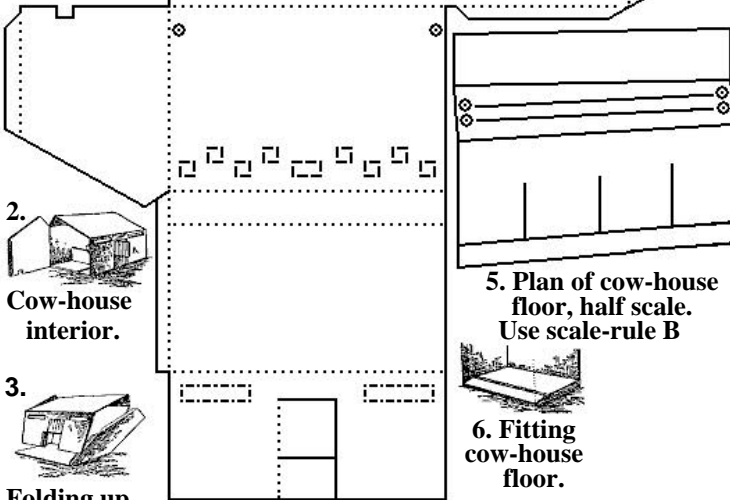


shown in picture 28, and then glue them into shape as seen in picture 29. That completes the second part of Modeltown Farm. We have yet to make a barn and a cart-shed, to place all our farm buildings in convenient positions for the working of the farm, to put walls and gates around so that the farmyard may be properly enclosed, and finally to make a hayrick and a corn-stack in the field just outside the farm gate. All these things we will do in our next building lesson, in which we shall also be able to see what our farm is like after it has been completed and photographed.

# PLANS FOR CONTINUING MODELTOWN FARM, page 1



1. Cowhouse.



2. Cow-house interior.



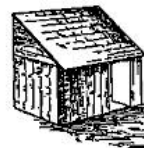
3. Folding up cow-house.

4. Plan of cow-house, half scale. Use scale-rule B

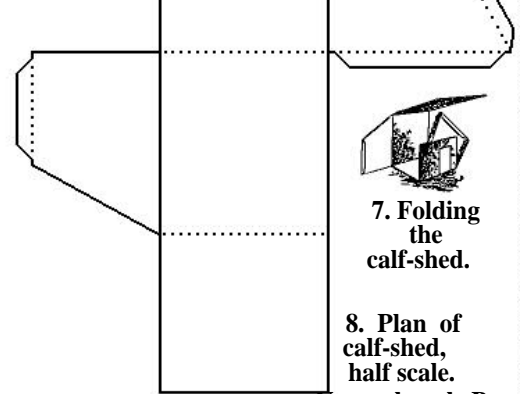
5. Plan of cow-house floor, half scale. Use scale-rule B



6. Fitting cow-house floor.



9. Calf-shed complete.



7. Folding the calf-shed.

8. Plan of calf-shed, half scale. Use scale-rule B

## NOTES:

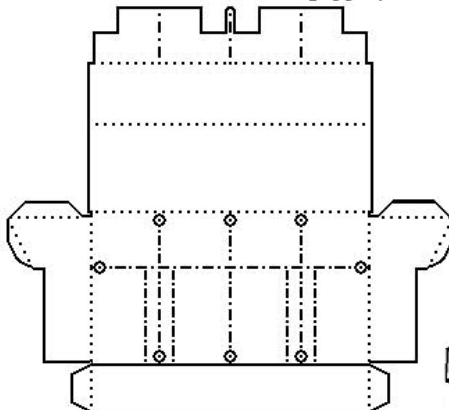
Plans for pigsty and stable partitions are on next page.



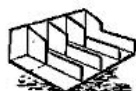
15. The piggy.



17. Folding the piggy.



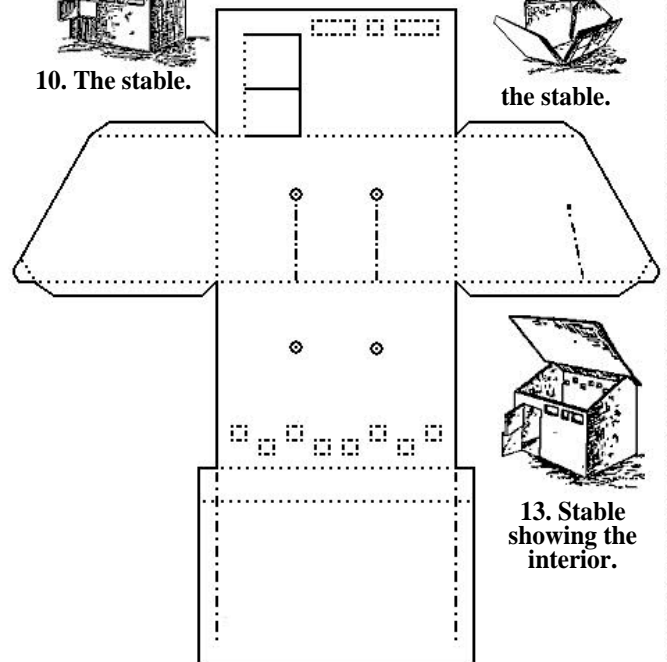
16. Plan of pigsties, half scale. Use scale-rule B



19. Partitions for piggy.



10. The stable.



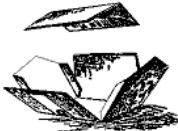
12. Folding the stable.



13. Stable showing the interior.

16. Plan of stable, half scale. Use scale-rule B

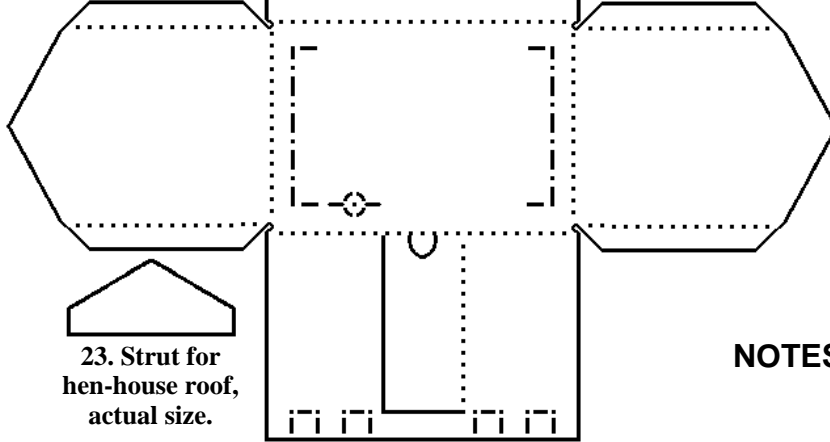
# PLANS FOR CONTINUING MODELTOWN FARM, page 2



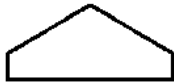
24. Folding the hen-house.



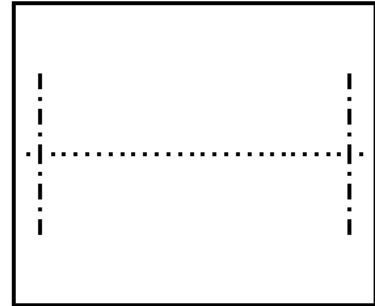
25. Hen-house.



21. Plan for hen-house, actual size.



23. Strut for hen-house roof, actual size.

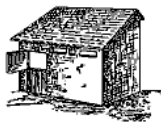
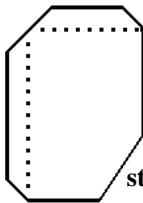


22. Plan for hen-house roof, actual size.



26. Plan for hen's ladder, actual size.

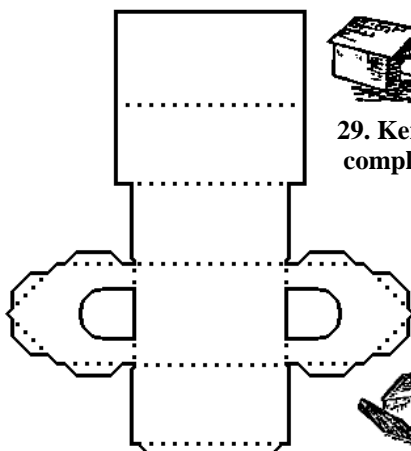
NOTES:



14. Plan of stable partition, actual size.



29. Kennel complete.



27. Plan of kennel, actual size.



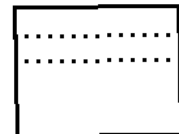
28. Folding the kennel.



18. Pigsty partition, actual size.

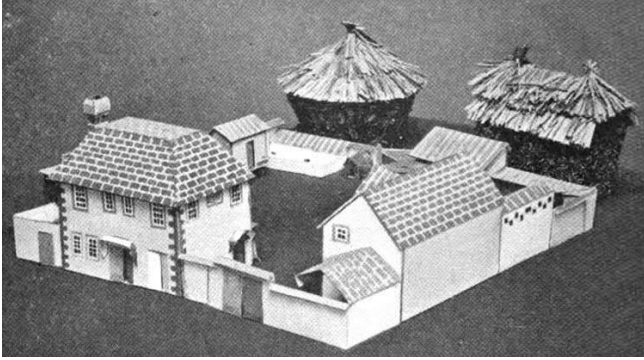


20. Outside partitions for pigsty, actual size.





## COMPLETING MODELTOWN FARM



We have already made the farmhouse and the dairy, also the houses for the cows, horses, pigs, and hens. The only important farm building that remains to be made is the barn, which is a very necessary part of the farmstead. Crops may be stored in it, and the many different kinds of farm implements and machinery. Then, having made the barn, we shall make and fit up the various walls upon a large board, which will represent the ground upon which the farm stands, and we shall arrange upon this cardboard ground the many buildings we have erected in convenient positions for the work of the farmer and his servants.

First, then, we shall make the barn. Its plan is given third-scale in picture 1. We use scale-rule C to take the measurements from the picture, and the full-sized rule to make the drawing upon the card. As we fold up the card, after we have cut it out, it will appear as shown in picture 2. Now we draw and cut out the plan given in picture 3, which is actual size. We must observe that we bend the dotted lines which have the circles from the back and not from the front of the card, so that we must cut the card half through upon the back.



2. Folding up the barn.



5. Gable window.

Then we make the gable strut, the plan of which, also full size, is given in picture 4, and glue it in the under side of the gable when bent over as shown in picture 5. The gable should now be glued to the roof of the barn as seen in picture 5, and the



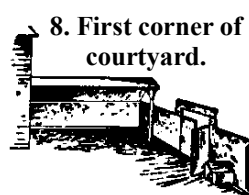
6. Barn complete.

completed barn, with its wide swinging door, is seen in picture 6.

We now give attention to what is perhaps the most interesting part of our farm work — making the ground-plan of the farm itself, with places for all the buildings that we have already made. We must have a sheet of strawboard, say, about 24 inches by 15 inches. Then the plan given in picture 7 must be drawn upon this strawboard. The picture is one-third scale, so that we use scale-rule C to take our measurements, and our full-sized rule to draw the lines on the card. The lines in the picture are all solid black lines, but in this case we do not cut out the card at these lines. In fact, we shall not cut the card at all, but merely have the whole sheet of strawboard its full size. Then at a later time we may put other articles outside the farm proper, in the ground around the farm which the outer part of the strawboard will represent.

Having drawn the plan in picture 7 on our strawboard, we can glue down the houses in their proper places — the farmhouse, dairy and dairy shed, barn, cow-house, calf-house, hen-house, piggery, stable, and the two dog-kennels. We have the walls to fill in, and two more sheds to make before the enclosure is complete.

The corner between the farmhouse and the barn will be filled in to look like picture 8, which



8. First corner of courtyard.

shows a cart-shed and a gate. The plan of this part is given half-scale in picture 9, and in taking the sizes from the picture, scale-rule B is used.

When this has been cut out, it is folded up and glued to the strawboard so as to make the corner as shown in picture 8. We must get a twig, and, having cut it to the right length, glue it into position as seen in the picture, so that it will do duty as a pillar or prop for the end of the shed — at the wall end of it.

The next corner for our attention is that between the stable and the cow-shed, which, when finished, will look like



10. Second corner of courtyard.

picture 10, with a corner shed having a wall along part of its front. To make this, the plan in picture 11, which is half-scale, must be drawn on card, using scale-rule B, and then cut out. By making two pinholes through the centers of the crosses we find where to glue the front wall inside. Folded up and glued into position to the wall of the stable at one end, and to the wall of the cow-shed at the other end, the result will be as shown in picture 10.

The dairy, the calf-shed, the hen-house, and the piggery are already in position. A wall will extend from the dairy to the piggery, and thus enclose the farmyard on that side. The plan of this wall is given half-scale in picture 12. The end with the folded slip will be glued to the dairy, and the other end to the side wall of the piggery. Observe



13. Fourth side of farm-yard.

that the back of the dairy projects a little from the face of the wall outside. There remains only the fourth side of the farmyard to be finished, that between

the piggery and the stable. This part is seen finished in picture 13.

The plan of the larger portion is given in picture 14, which is made actual size, so that in drawing it we use the full-sized scale-rule, both to take the sizes from the picture and to make the drawing on the card. This part is glued to the end of the piggery and to the back of the kennel, as seen in picture 13. Finally, the plan given in picture 15 is drawn full size, cut out, and glued to the back corner of the stable, and this part also is complete.

Upon that part of the farm ground close to the farmsteading, we frequently see on a real farm stacks of hay and of corn. We will take the corn-rick first. It is seen finished in picture 16. Picture 17 gives a plan of the body of the



16. Corn-rick.



18. Rick bent.

corn-rick. It is half-scale, so that we make our drawing by using scale-rule B. The plan is cut out and half cut at the dotted lines. Then the card is bent up, and it will be as shown in picture 18. The

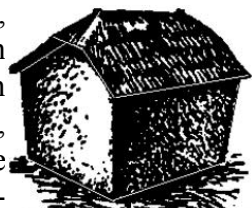
easiest way to make the sides stand erect in their proper positions is to take a strip of paper and gum it on inside walls. Some postage stamp edging will do nicely for the purpose.

To make the top of the rick, compasses are necessary. The legs of the compasses are set 2 ½ inches apart and a circle is drawn. This is making a drawing of the plan shown in picture 19, which is half-scale. Complete the drawing by making two black lines leading from the edge, and the one chain line leading from the center to the edge. Cut out at the black lines, and fold over until the chain line is close to the solid black line that goes from the center to the edge of the circle. Now we glue the slip that goes under one edge, and hold it until it is firm, and have a lid-

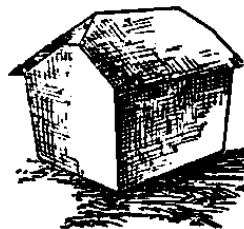


shaped top, as seen in picture 20. This we glue to the sides of the rick which we have already made. Now we cut pieces of straw — the thinner the better — into very short lengths, and, after covering the sides of the rick with glue, we sprinkle on the pieces of straw. We cut some longer pieces of straw, say, about one inch long, and split them if they are rather thick. Glue a band of straws on to the top right around the rim, projecting well over the rim, and about three-quarters of an inch up the top. Glue on another band higher up, projecting over the first band, and then a third band in the same way. Finally, take about a dozen thin straws and tie them into a tight little bundle close to one end, spread the other end, and place them upon the pinnacle of the rick and fix them with glue. We ought now to have a very realistic representation of a corn-rick as seen in picture 16.

Lastly we make the hay-stack, a picture of which is given in picture 21. Its plan is given one-third scale in picture 22,



21. Hay-stack.



24. Hay-stack before it is covered.

so that we use scale-rule C for taking the measurements. Having drawn and cut out the card, we fold it up as usual, either gluing the edges to each other or using gummed paper inside the stack. The top or

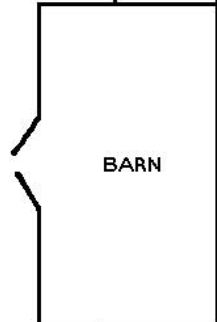
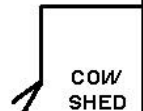
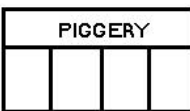
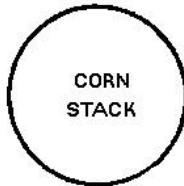
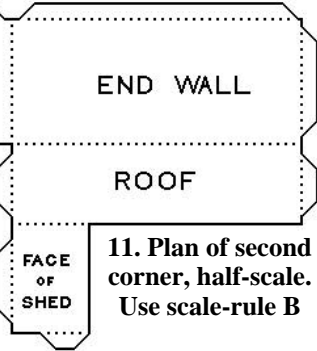
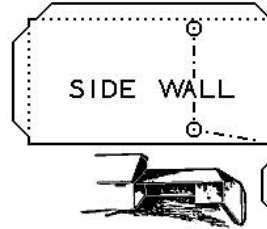
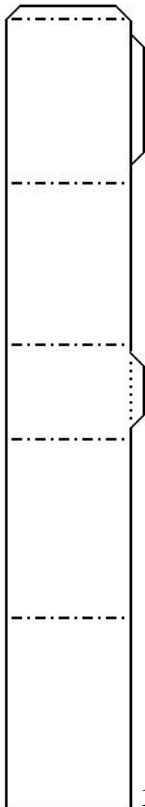
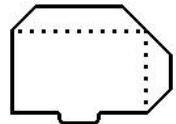
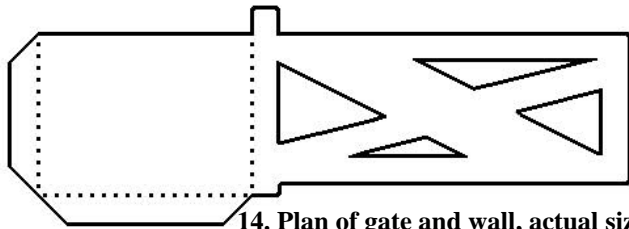
cover is given in plan in picture 23, and this also is one-third scale, so that again we use scale-rule C. When we have cut out the card and bent the roof, we find that the ends at the top take the form in picture 24. We glue these parts into the form

there shown, and finally glue the top to the sides. Then we cut into very small portions some sweet hay, glue the sides of the stack, and sprinkle the chopped hay over the card. We thatch the top like the corn-rick, and so complete Modeltown Farm.

#### **NOTES:**



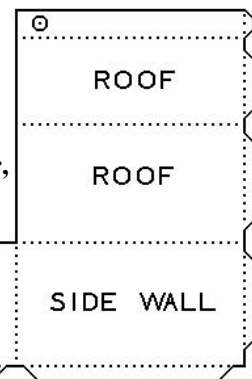
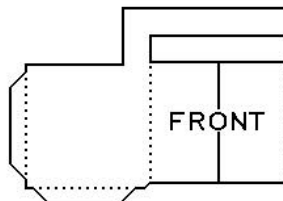
# PLANS FOR FINISHING MODEL TOWN FARM, page 2



7. Ground plan of farm, one-third scale. Use scale rule C.



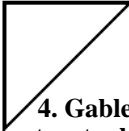
9. Plan of first corner, half scale. Use scale-rule B



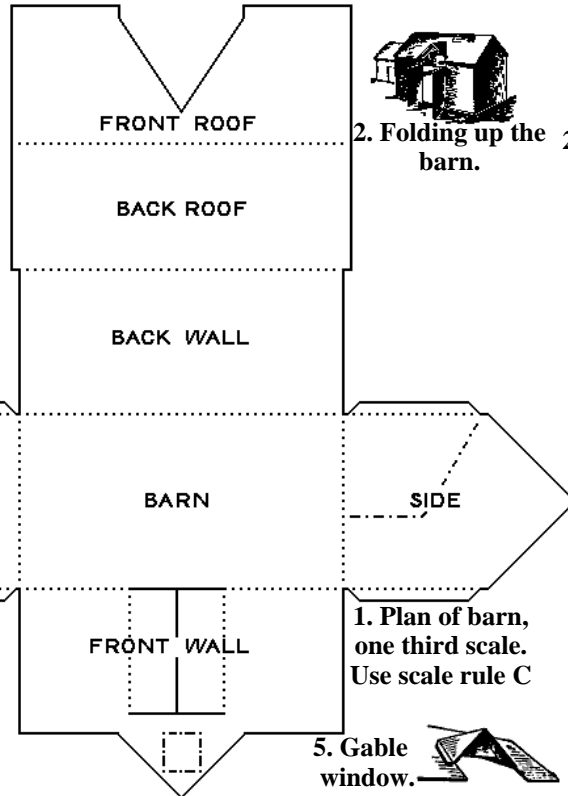
# PLANS FOR COMPLETING MODELTOWN FARM, page 1



2. Folding up the barn.



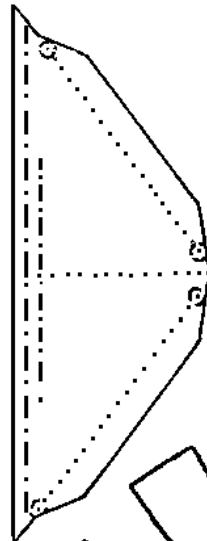
4. Gable strut, actual size.



2. Folding up the barn.

1. Plan of barn, one third scale. Use scale rule C

5. Gable window.



3. Part of barn roof, actual size.



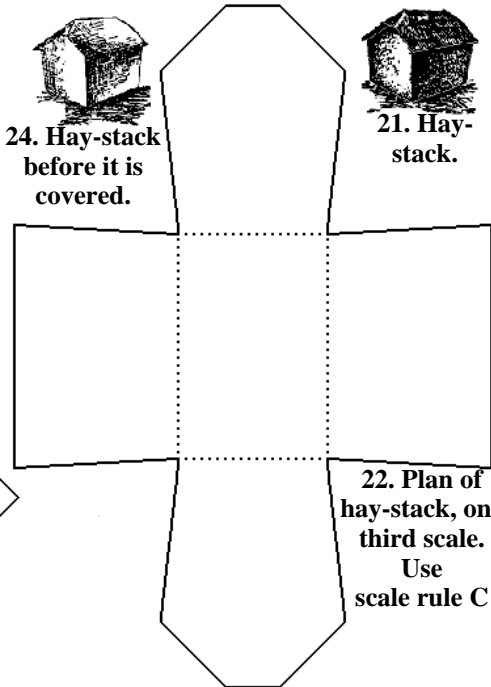
2. Folding up the barn.



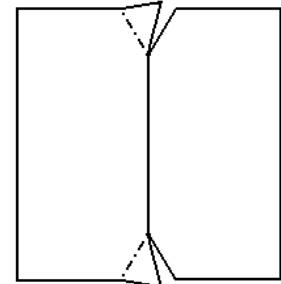
24. Hay-stack before it is covered.



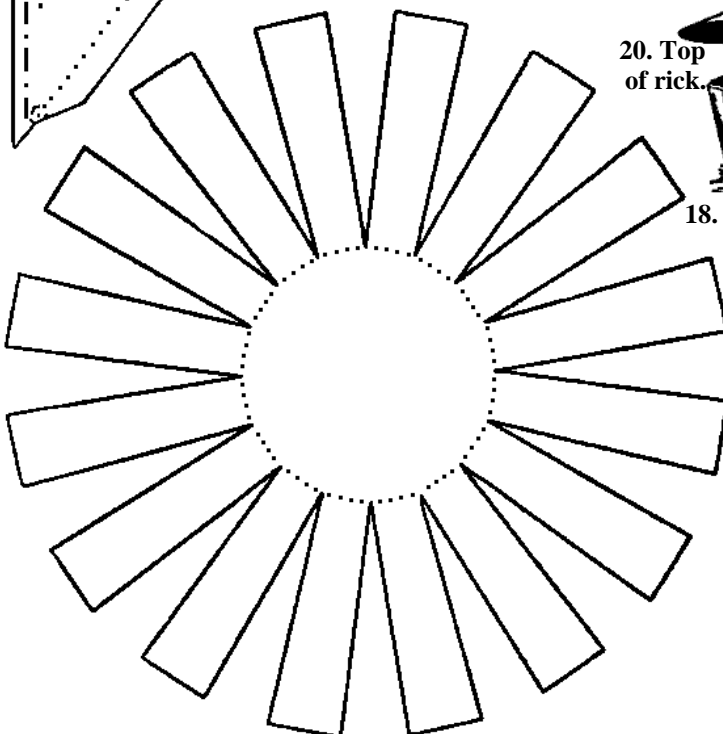
21. Hay-stack.



22. Plan of hay-stack, one third scale. Use scale rule C



23. Roof of hay-stack, one third scale. Use scale rule C



17. Plan of corn-rick, half scale. Use scale rule B

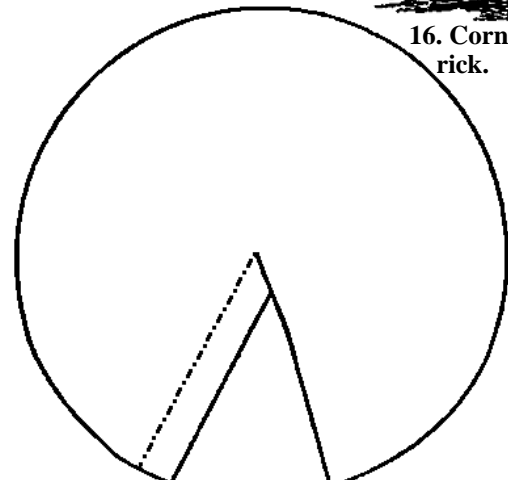
20. Top of rick.



18. Rick bent up.



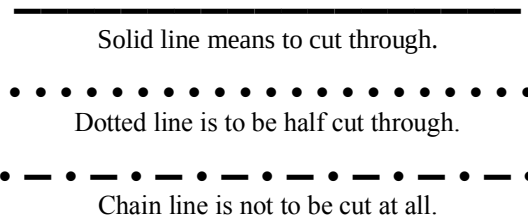
16. Corn-rick.



19. Roof of corn-rick, half scale. Use scale rule B

### Excerpt from “PREPARING FOR MODEL TOWN”

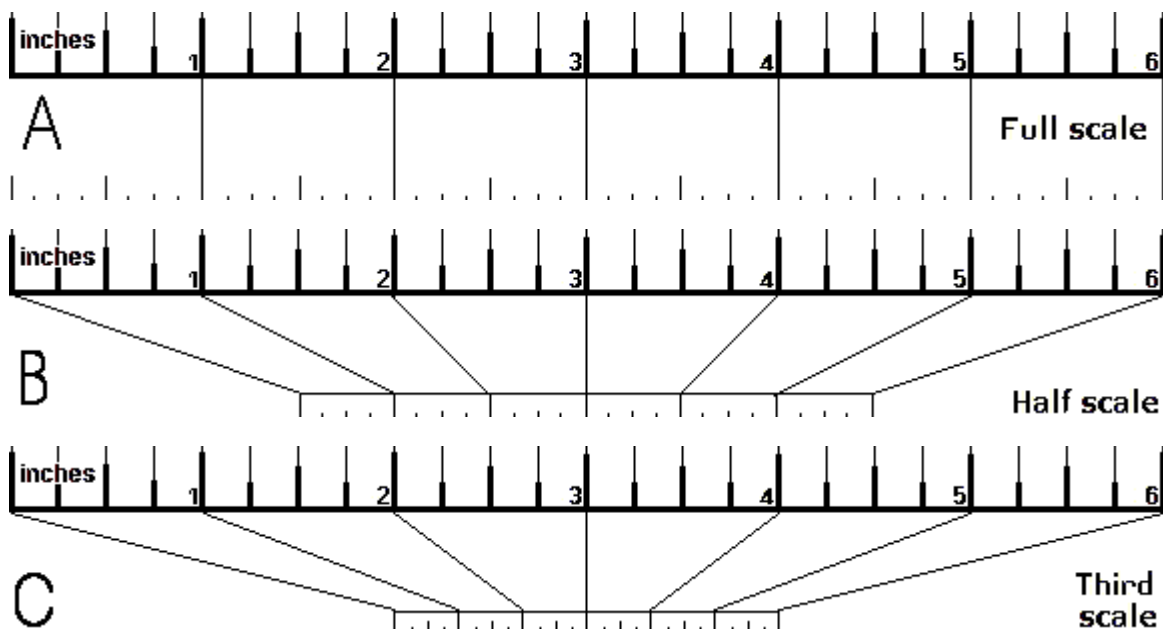
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

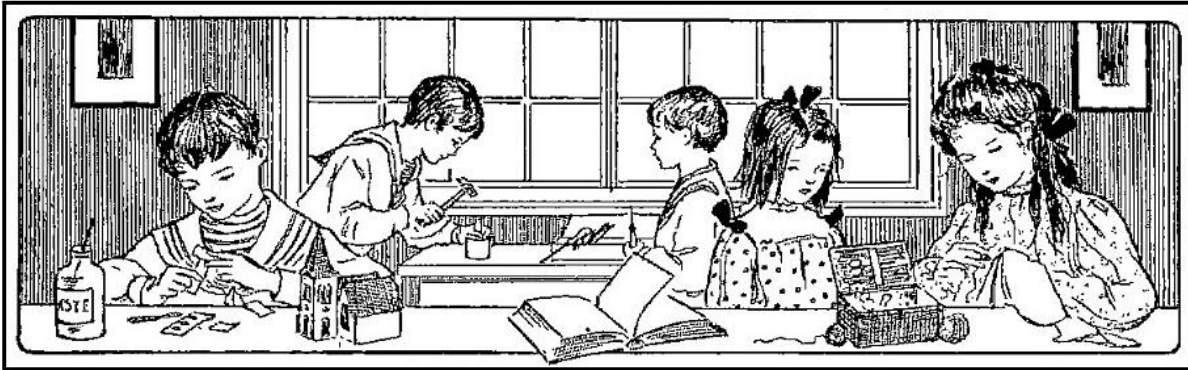
The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.









## Modeltown an English Village

### 1. MODELTOWN RAILWAY STATION

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#### [Part 1] Making Modeltown Railway Station.

**Description**

**pages 119 - 122**

**Plans**

**pages 123 - 124**

#### [Part 2] Finishing Modeltown Railway Station.

**Description**

**pages 125 - 128**

**Plans**

**pages 129 - 131**

**Excerpt of "Preparing for Modeltown"**

**page 133**

**Excerpt of "Making the Chapel for Modeltown"**

**page 133**

**Scale-rules**

**page 133**

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### References

#### [Part 1] Making of Modeltown railway station.

*Book of Knowledge*. (1912). v. 4, pp. 1199-1202; <https://archive.org/details/bookofknowl-edgec04mee>

*Children's Encyclopedia*. (1910). v. 2, pp. 1184-1187; [www.hathitrust.org](http://www.hathitrust.org)

#### [Part 2] Continuing Modeltown railway station.

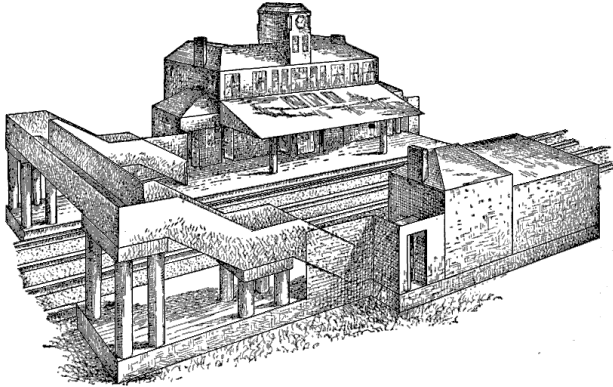
*Book of Knowledge*. (1911). v. 6, pp. 1282-1284; <https://archive.org/details/TheBookOfKnowl-edge6>

*Book of Knowledge*. (1912). v. 4, pp. 1282-1284; <https://archive.org/details/bookofknowl-edgec04mee>

*Children's Encyclopedia*. (1910). v. 2, pp. 1282-1284; [www.hathitrust.org](http://www.hathitrust.org)



## MAKING MODELTOWN RAILWAY STATION, Part 1

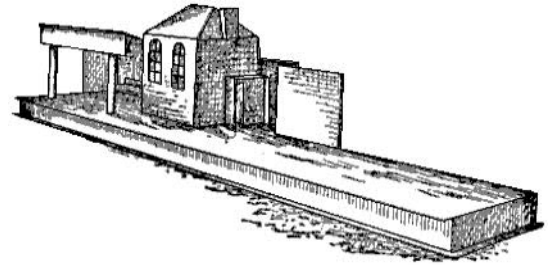


1. The design for Modeltown railway station.

We will give Modeltown a railway station. However nice Modeltown may be to live in, there are times when the people who live in it need to visit other towns, and we must provide them with easy and pleasant means of traveling. Besides, we must have a railway, by means of which to bring goods to the shops and the people, also by which the things to be made in Modeltown work-shops, and grown on Modeltown farms, may be carried to other towns to be sold.

Our station will be a big one and a good one. It will have two platforms, with rails between, and a bridge over the railway line by which passengers may cross from one platform to the other. It will have waiting-rooms and platform-sheds for the convenience of the passengers, a house for the station-master, a booking-office, where the booking clerk issues the railway tickets, parcel and porters' rooms and the other parts of a busy modern railway station. Although the task of making the railway station will not be difficult – indeed, it will be rather long, and we cannot easily do it all in one lesson. So we shall divide the work of making the railway station into two parts, and make one part now, completing the work in the next part of the *Children's Encyclopedia*.

Picture 1 shows us the completed railway station we are about to make. Here we see the platform buildings, with the footbridge over the railway. The platform nearest us in the picture is the *down* platform. We see the back of the waiting and other rooms erected on it. This is the part that we shall make first. It is seen from the front in picture 2.



2. The down platform at Modeltown railway station.

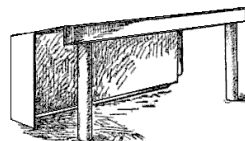
Now we turn to the plans, remembering the instructions given in "Preparing for Modeltown" as to the meaning of the three different kinds of lines in the plans. We use the card of scale-rules given away with Part 2 of the *Children's Encyclopedia*. Picture 3 is the plan of the waiting-room. It is half-scale, so that in making our drawing on the card we use scale-rule B to take the sizes from the plan, and make the lines on the card with the full-sized rule.

Having drawn it to the proper size on our card, we cut it out and fold it up. As we fold it up, it will look like picture 4.



4. Folding the waiting-room.

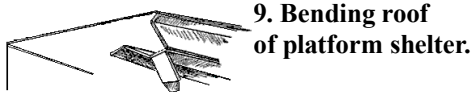
Then we glue the edge slips into their proper places, as we now know so well how to do. The plan of the chimney is given actual size in picture 5, so in making it we use only the full-sized rule both for taking the sizes from the picture and for making the lines on the card, or we trace it as explained in "Preparing for Modeltown." Picture 3 has on the roof part a line indicating the position into which the chimney is to be fixed and glued. The next plan, given in picture 6, is the ticket-collector's box. It is half-scale, so we use scale-rule B in taking the measurements, making our lines with the full-sized rule. After it has been drawn and cut put, we glue it to the side of the waiting-room, its place being indicated by the dotted lines on the end wall in picture 3, and also in picture 2.



7. Platform shelter.

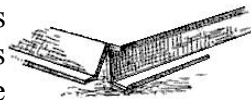
The next part to be made is a shelter for this platform. It consists of a back wall, a side and a roof, with two pillars to

support the roof, with two pillars to support the roof. The finished shelter is seen in picture 7. Its plan is shown half-scale in picture 8, so that in making it we again use scale-rule B to take the sizes from the plan. Two of the dotted lines in the plan have very tiny circles at each end. These lines have to be half cut through, not on the side of the card on which the drawing is, but on the opposite side of the card. The two larger circles on the plan give the positions for the tops of the two pillars which we will afterwards make to support the roof. Now, we must be a little careful in bending up the card after we have drawn the plan in picture 8 upon it and cut it out. Picture 9 shows exactly how it should be bent up, and if we follow the picture closely we cannot well do it wrongly. The part of the wall to the right of picture 2 is the next thing to be made. Its plan is given half-scale in picture 10, so that we take our measurements with scale-rule B. Observe the dotted line that has the two small circles near the ends. At this line the card must be cut half through, not on the side of the card upon which the drawing is, but upon the opposite side. We put aside all the pieces which we have made, and turn to make the platform, upon which we shall erect and fix these pieces afterwards.



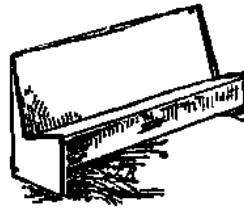
**9. Bending roof of platform shelter.**

The plan of the platform is given one-third scale in picture 12. We therefore use scale-rule C to take our measurements from the plan, and make the lines upon our card with the full-sized rule. The dotted lines which have the tiny circles near each end mean, as usual, that the card is to be half cut, not on the drawing side of the card, but upon the opposite side of the card. The way to bend the edges of the platform is shown in picture 11. This method of bending the platform makes it much stronger than it would be if the edges were bent merely like a square corner. The doubled-over part right at the edge of the front of the platform should be glued where the card touches the card. This will give it both strength and rigidity. Now



**11. Edge of platform.**

we glue the waiting-room, the ticket-collector's box, the short portion of the wall and the shelter into their proper positions on the platform. We can see from the lines in the plan in picture 12, and from picture 2, where the different parts should go.



The next thing is a seat to go under the shelter. Its plan is given half-scale in picture 13, so that we take our measurements with scale-rule B. In cutting out this, we remember to halt cut and bend the dotted line with the tiny circles, on the opposite side of the card from the drawing, and then we bend up and glue the seat into proper form, as seen in picture 14.

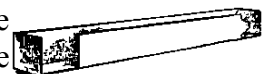
The down platform is complete as seen in picture 2, except that we have not made and fixed the columns or pillars. As there are a good many other columns to be made and fixed, we shall delay making these now, as it will be better to make them all together.

The footbridge, which enables passengers to cross from one platform to the other, is the next part of our railway station that we will make. The completed



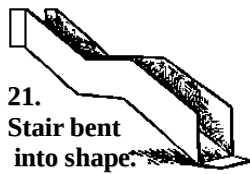
**15. Completed footbridge.**

bridge, shown apart from the platforms, is seen in picture 15. It consists of the footway across, and two stairways, and is supported by four sets of columns, the lower ends of which rest on the platforms. Picture 16 is the plan of the top part, or footway. It is half-scale, so that we take our measurements with scale-rule B, and make the lines on the card with our full-sized rule. It is very easy to make and bend up, and after being bent up it will be as seen in picture 17. The two stairways are alike. We make two drawings of the plan in picture 18, which is half-scale, so that we take our measurements with scale-rule B, and make our lines with the full-sized rule. We must observe the dotted lines with the small circles, and know that here the card must be cut half through, and



**17. First part of bridge bent into shape.**

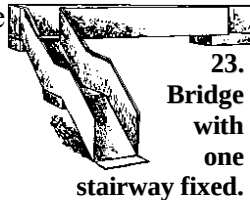
bent on the opposite side from the drawing. Then we make four drawings of the plan in picture 19, which is the side of the stairs, two sides to each stair, making four sides in all. This, again, is half-scale, so that we use scale-rule B for the measurements. In two of these we half cut and bend over the card on the opposite side, so as to make two right-hand and two left-hand sides. In two of these side-pieces the upright dotted line must be half cut, and bent so as to be glued to the side of the bridge proper; but in the other two the upright dotted line must be left uncut and unbent, so as to be glued to the end of the bridge proper.



21.  
Stair bent  
into shape.

Now we build up the two stairways, and they will look as seen in picture 21. The folded slips at the bottom

edges of the side-pieces must be glued to the surface of the stair itself. Now the stairs are glued to the top part of the bridge, the top of each stair going into the spaces left, and seen in picture 17. Picture 23 shows one stairway fixed to the top part, and the other stairway is fixed in the same way. This picture also shows the square pieces that come at the top of the sets of pillars, and we now proceed



23.  
Bridge  
with  
one  
stairway fixed.

to make and fix these square pieces. We make two drawings of picture 21, which is half-scale, so that we take sizes with scale-rule B and make our drawings with the full-sized rule. We cut out and bend up these two pieces, and then fix them under the bridge at each end of the top part. The pieces when folded up will be oblong, so that they will extend along the under side of the bridge, a little beyond the length occupied by the tops of the stairs. Picture 22 is the plan of the square pieces for under the middle of each stair. It is also half-scale, so that in making the two drawings we use scale-rule B to take the measurements from the plans. Having cut these out, we fold them up and glue them to the platforms in the middle of the two stairs. Picture 23 shows this piece fixed to one of the stairs, and the other piece is fixed to the other stair in the same way. The stair is complete except for the columns, but we will not make the

columns now as we cannot fix them until both platforms are made.

The *up* platform is longer than the *down* platform, and contains the principal station offices, the station-master's house, and parcel and porters' rooms. Hence the work of making it is more than that of making the *down* platform. The first part that we shall make will be the platform, the plan of which is given one-third scale in picture 24. Thus we use scale-rule C to take the measurements from the picture, and we make the lines in the drawing with the full-sized rule. Here again we must observe that the dotted lines with the small circles near each end must be half cut through and bent over, not on the side where the drawing is, but on the opposite side. If we turn back to picture 11, we shall see how we bent up the first platform, and we must do the same with this one. After putting the glue all along the front edge inside, we shall find that if we press the two edges with the wooden rule we use for making the drawings it will help us to make neat, strong work. After having drawn and cut out the plan of this platform, and after bending and gluing it, it is ready for the buildings that are to be made and erected on it. But we will leave these buildings until next part, as we have done enough for one time. But before leaving what we have done, we will make the columns or pillars that will be used to support the stairs on both platforms, and the sheds in front of the waiting-rooms.

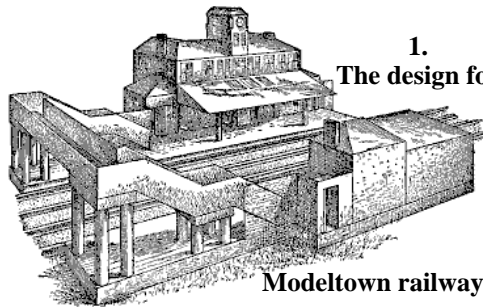
We require eight long columns and eight short columns to support the stairs, and two columns for the shed on the down platform. That means 20 columns altogether. In making the chapel we saw how to make paper columns. If, therefore, we refer to pictures 16 and 17 in that section, and to the instructions how to make the columns, we shall find what we want. An ordinary lead pencil will do to form the columns on, but if we can get a round penholder a little thinner than an ordinary lead pencil, we shall be able to make a neater job; a lead pencil is just a little too thick. We can take from the stair and from the platform shed the lengths for the columns. This will not be difficult, and it is much better to do this than it is to have all the sizes given us.

Having made the columns, we may fix the two into their proper places below the down-platform shed. The picture plans are marked with the places where they fit. Then we may fix into position the stair that we have made, putting the columns on the platforms at the places marked on the plans. We must be careful to place them

upright, and to glue them into position so, otherwise our station when finished would look not at all neat.

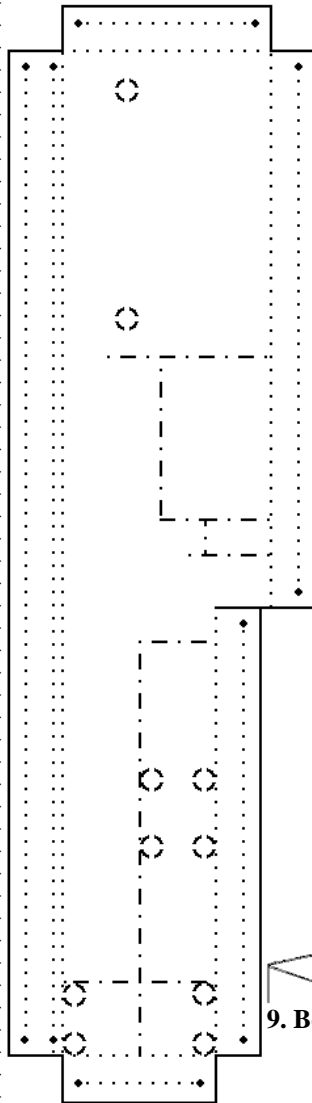
Having done all this, we may put the work aside for two weeks, when we will proceed with the buildings on the up platform.

# PLANS FOR MODEL TOWN RAILWAY STATION, PART 1, page 1



1. The design for

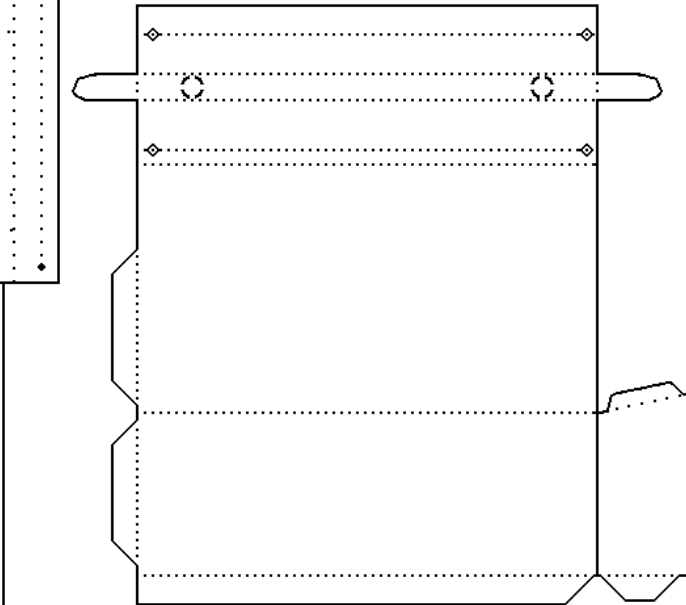
Modeltown railway station.



12. Plan of down platform, one-third scale. Use scale-rule C



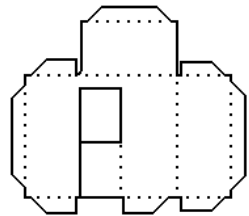
11. Edge of platform.



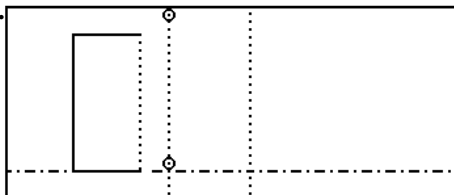
8. Plan of shelter, half scale. Use scale-rule B



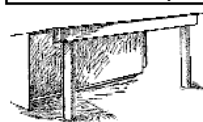
9. Bending shelter roof.



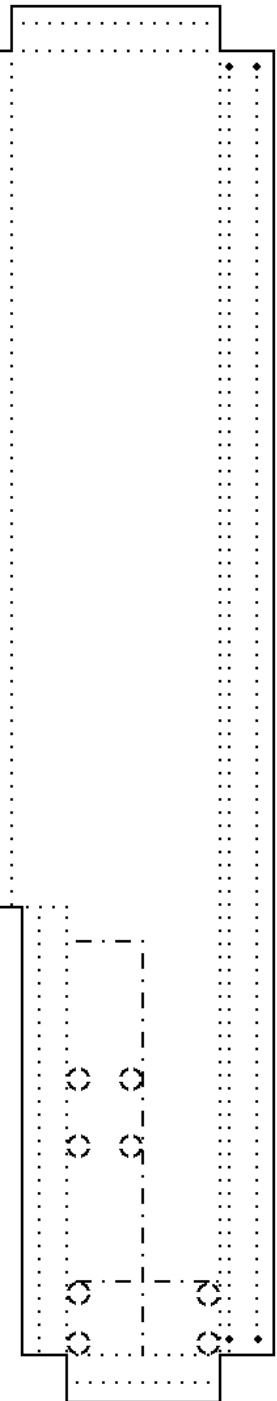
6. Plan of collector's box, half scale. Use scale-rule B



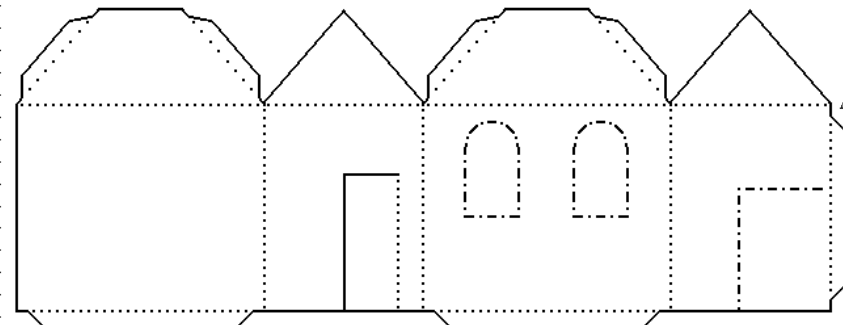
10. Plan of wall part, half scale. Use scale-rule B



7. Platform shelter.



24. Plan of up platform, one-third scale. Use scale-rule C



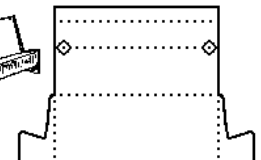
3. Plan of waiting room, half scale. Use scale-rule B



4. Folding waiting-room.

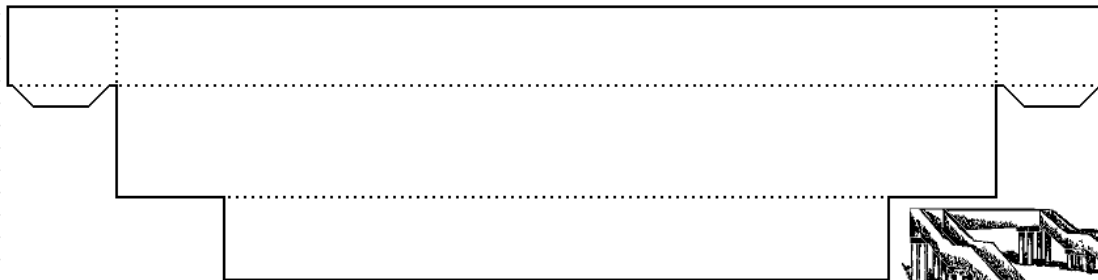


14. Seat completed.



13. Plan of seat, half-scale. Use scale-rule B.

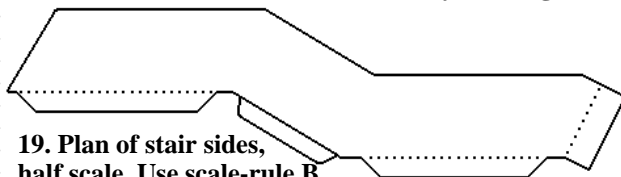
# PLANS FOR MODEL TOWN RAILWAY STATION, PART 1, page 2



16. Plan of footway of bridge, half scale. Use scale-rule B



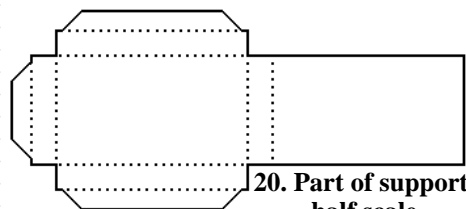
15. Completed footbridge.



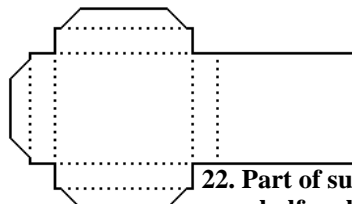
19. Plan of stair sides, half scale. Use scale-rule B



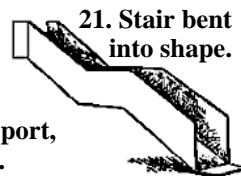
17. Part of bridge bent into shape.



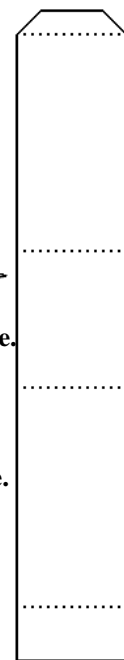
20. Part of support, half scale. Use scale-rule B



22. Part of support, half scale. Use scale-rule B



21. Stair bent into shape.

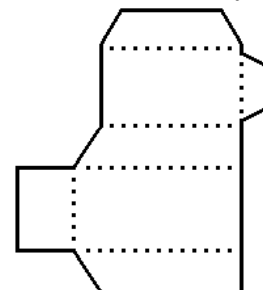


18. Plan of stairway, half scale. Use scale-rule B



23. Bridge with one stair fixed.

5. Plan of chimney,

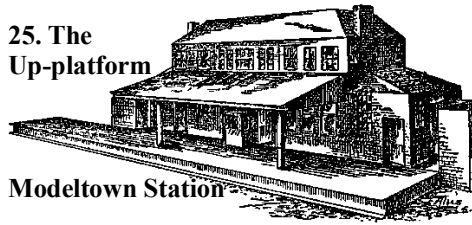


actual size.



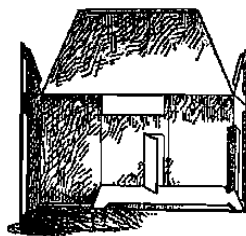
## FINISHING MODELTOWN RAILWAY STATION, Part 2

25. The  
Up-platform



Modeltown Station

We will now proceed to make the buildings for the up platform of our railway station. We made the platform itself last time we built. The last picture given of the platform was number 24. In this case we shall continue the numbers, and our first number in this part will therefore be 25. Picture 25 shows the up platform complete with all its buildings, but without the stair that descends to it from the bridge. In the case of this platform the buildings are erected, not on the platform itself, but behind the platform and close up to it. The room on the extreme right is the porters' room, and its plan is given half-scale in picture 26. In taking our measurements we use scale-rule B to take the measurements, and our full-sized rule to make the lines on our card. After having been cut out, and

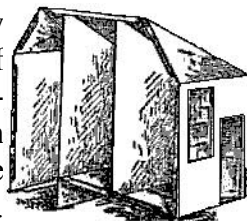


27. Folding the  
porters' room.

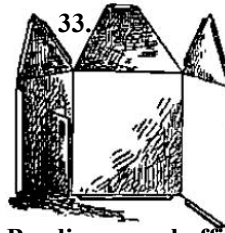
when being folded up, the porters' room will be as seen in picture 27. We must observe that there are two levels to the floor — the street level and the platform level. Part of the floor is on the platform level and part is on the street level. We shall see the reason for this as we proceed.

Two partitions are necessary for this building, and plans of these partitions are given half-scale in pictures 28 and 20. In making them we use scale-rule B to take our measurements.

Picture 30 shows us the partitions in place. We notice that the longer partition goes right down to the street level, and that the shorter partition goes down to the higher level floor. Picture 26 shows at a chain line where this partition is to be placed. When we have glued this building together, with its partitions in place, it will appear as seen in picture 30.

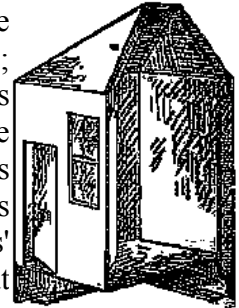


30. Porters' room,  
with partitions.



Bending parcel office.

We will now make the parcel office, the plan of which is given half-scale in picture 31, so that again we use scale-rule B to take our measurements. The floor for this room is given in half-scale plan in picture 32, which we make by using scale-rule B for the measurements. When bending up the walls of the room, it will be like picture 33; and when the room is completely glued up, with the floor in position, it will be as seen in picture 34. Put this building aside with the porters' room until we are ready to put all the platform buildings together.



34. Parcel office  
complete.



35.

**Clock tower.** The main building has a clock tower (seen in picture 48), which we shall now make. Its plan, half-scale, is in picture 36, so we use scale-rule B. Notice the dotted lines that have the small circles near each end. We know that these have to be cut half through, not on the side of the card where the drawing is, but upon the opposite side of the card. After cutting out the card, the tower will look like picture 35 as it is being bent up. This picture shows the round space marked like a clock-face, and we can easily draw it so without any special illustration of a clock. A clock-face should be made in both circles, as the clock must tell the time both to the people in the station and to the people in the street. Observe by the markings in picture 36 that part of the corner on each side of both clock-faces is cut and bent inwards so as to make this part ornamental. Having made the clock tower, we put it aside also until we are ready.

The next thing to which we give attention is the shed, or platform shelter. We can see this finished and supported on its pillars in picture 25. Its plan is given in picture 37. This is half-scale, so that in making it we use scale-rule B to take our measurements from the picture. One of the dotted

lines has a circle near each end, and this, as usual, means that the card should be half-cut and bent on the opposite side of the card. The plan of the under side of the shelter is shown in picture 38. This is also half-scale, and we take our measurements with scale-rule B, paying attention to the two lines that must be half-cut and bent on the opposite side. There are two ends to enable us to attach the top to the bottom. We therefore make two drawings of the plan in picture 39. The dotted lines in one of them we must half-cut and bend up on the opposite side of the card from the drawing. Then we glue together the roof, under side, and ends of this shelter, and make it into a curiously-shaped box.

Picture 40 shows how the end looks as it is being folded up. Notice the doubling over of the card to make the front edge. **40. End of shelter.** Glue should be spread thinly in the card-bend here, and the rule should be used to press it down flat until it is hard. This will make a neat, strong job.

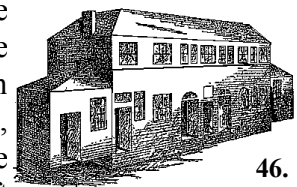
At each end of the main building, as seen in picture 25, there is a chimney, of which a plan is given half-scale in picture 41. Using scale-rule B, we draw and cut out two chimneys, noticing that some of the dotted lines must be bent back from the opposite side. We glue up the chimneys and put them aside, leaving their fixing until the place is ready for them.

In picture 25 we may see under the shelter a ticket collector's box, and this we shall now make. The plan is in picture 42, and is actual size, so that in making it we use only the full-sized rule both for taking our measurements from the picture and for making our lines on the card. We bend this up, and glue two projecting slips at the top of the walls to the under side of the roof. Then we put this on one side also, until we are ready to attach it to the front of the main building.

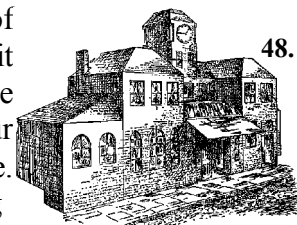
Before we make the center building, we will make the two end walls of the platform. We can see these in picture 25. Picture 43 is the plan of the smaller of the two — that on the left side of the platform as seen in picture 25. It is half-scale, so that we use scale-rule B for the measurements.

Notice that the dotted line must be half-cut and bent on the opposite side from the drawing. The other wall — that at the right end of the platform in picture 25 — is not so simple, as part of it is to be bent over to form a footway from the platform, and one part reaches down to the level of the street. Picture 44 is the plan of the wall, made half-scale, so we use scale-rule B for the measurements. Notice the lines that must be half-cut and bent from the other side of the card. When this has been made and cut out, we put it aside with the other things that made but have not yet fixed in their final positions.

We are now ready to make the large central hall of the station buildings. It is seen finished in picture 46, which also shows the porters' room and the left luggage office attached to the central hall — one at each end.



Picture 47 is the plan of this building, and gives it one-third scale, so that we use scale-rule C to take our sizes from the picture.



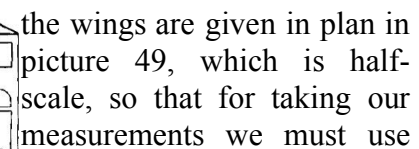
Having drawn and cut this part out, we fold it up, when from the inside it will look like picture 45. The street-front of the station, when completed, is seen in picture 48. The central part and the front of

the wings are given in plan in picture 49, which is half-scale, so that for taking our measurements we must use scale-rule B. We must notice that some of the dotted lines have to be half-cut and bent on the opposite side of the card. When bent into shape this portion will look like picture 50, or, looked at from the back, it will be like picture 51.

**45. Folding the central hall.**

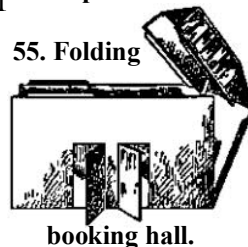
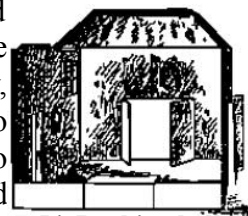
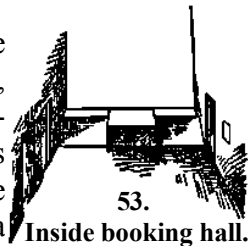
**50. Street front of central hall.**

**51. Back of central hall.**



We can now glue the platform front of the building, which we made from the plan in picture 47, to the street-front, which we have just made from the plan in picture 49. The end slips of 47 are glued inside the ends of the walls of 49. and then we shall have a frame that begins to look like a solid building. The folded edge slips of the roof of 49 must be glued carefully and accurately to the place where they touch 47. We shall find that inside the great bay at the street side there is no roof. We therefore cut out two roof wings — one for each side — from the plan given in picture 52, which is half-scale, so that we use scale-rule B to take the measurements. Having cut out these parts we glue them into place, thereby completing the roof, which will be flat at the top of these parts, and not pointed like the main front roof. The main building now consists of the front next the platform, and on the street side two wings with a bay between, in which we shall place the booking-hall.

Picture 58 is the plan of the booking-hall, and is half-scale, so that again we take scale-rule B for measuring the sizes in the picture. We shall notice that the booking-hall has a large double-door entrance and a glass roof. On one side there is a door and a ticket-window, and on the other side two doors, one of them leading to the general waiting-room and the other to the ladies' waiting-room. At the platform end of the hall is a square foundation to the collector's ticket-box, and two sets of steps leading to the two platform doors which stand on the platform level. The interior of the booking-hall, looking from the street door, is shown in picture 53, where we can see most of the details. Picture 54 shows the hall looking from the end next the platform, and shows the street door; and picture 55 shows the booking-hall from the outside being folded up into position.



Picture 57 is the plan of short stairs at the end of the hall, the slopes of which are seen in picture 53. These slopes may be seen at each side of the platform at the far end of the hall in picture 53. Picture 57 is actual size. We make and cut out two of the same size, and glue them into position as seen in picture 53, fixing one end to the hall floor, the two side pieces to the wall of the hall on one side and to the side of the small platform on the other, and bend back and fix on the back to the back wall of the hall. Picture 56 is a half-scale plan of the ticket collector's box which, by using scale-rule B for the measurements, we make and fix on the small platform in the booking-hall, so that it may really form an extension to the ticket collector's box on the platform.

Now we fix the booking-hall into its place in the space left for it, when we put the main building together. We put the end with the steps against the platform doors. We glue this carefully and accurately into place, and it should look like picture 48, except that the two side buildings — one at each end — the clock tower, and the porch of the entrance have not been attached.

The plan of the entrance porch is given in picture 59. It is half-scale, so that we must use scale-rule B for the measurements. We make it and glue it above the front entrance as seen in picture 48.

Now we will glue on the clock tower, which we have already made. The place where it goes is indicated by chain lines in pictures 47 and 49, and its appearance when finished is seen in picture 48. The next part of our task will be to glue the porters' room and the left-luggage room into their proper places at the ends of the main building. Pictures 25 and 48 will help us to do this. As these buildings have been lying waiting for us, we may find that the glue may have pulled the sides a little out of form as it has set hard. We need not pay attention to this until we have glued them into position against the main building, after which we can persuade them by gentle force to go into their right places. We must see that we fix both flush with the main building on the platform side.

Now we must get a large sheet of strawboard on which to erect our railway station, which has now little to be done to it. If the strawboard is very

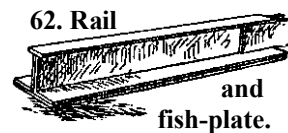
thin, we may put a few cross-pieces of thicker board, or even thin slips of wood, underneath to give it strength. Towards one side of the strawboard erect the down platform, and glue it securely to the strawboard. Place the other platform, which is the larger or *up* platform, opposite the down platform, the two smaller ends being exactly opposite. Thus the up platform will be much longer than the down platform at the broad end. Let the edges of the two platforms be exactly four inches apart, and see that they are this distance apart for the whole course of their length. In this position, glue the up platform to the strawboard. The under slips at the back of this platform should be turned in before gluing, so that they will not interfere with the buildings when we glue them into position.

The main buildings of the up platform must be glued to the strawboard immediately behind the platform itself. We may note for our guidance that the outside end of the porters' room should be exactly opposite the place where the platform becomes wider. We glue the under slips of the buildings, where there are such slips, to the strawboard, and the front of the buildings at the bottom to the back of the platform. We must press them gently but firmly against the back of the platform until the glue has set. Next we place in position and glue the ticket collector's box on the platform. It will be right at the place where the small platform in the booking-hall was fitted with the collector's box extension. The shed cover or weather screen of the platform, which has been lying ready for us, must now be glued into position. We make two columns or pillars to fit it, and to act as supports. We have seen in "Making the Chapel for Modeltown" how to do this, and we have already made the pillars for the stairs and for the down platform, so we know how to do this now. Having fixed the pillars for this platform screen, there remains to fix the bridge, if we have not already done so.

We must place and glue the bottom of the stairs to the two platforms. In doing this, and in letting the glue set hard, we must put something beneath the bridge to keep it in position. When the bottom ends have set, we proceed to fix the pillars, which

must be cut to exact length. If they are too short they will make the stairs lean back, and if they are too long they will make the stairs lean forward.

The short walls at the bridge ends of the platforms must now be glued into position, if we have not already fixed one or both. They must be glued both to the buildings and to the sides of the stairs. Now there is only the wall and footway, seen at the right-hand side of picture 25, to be fixed into position just at the side of the porters' room.

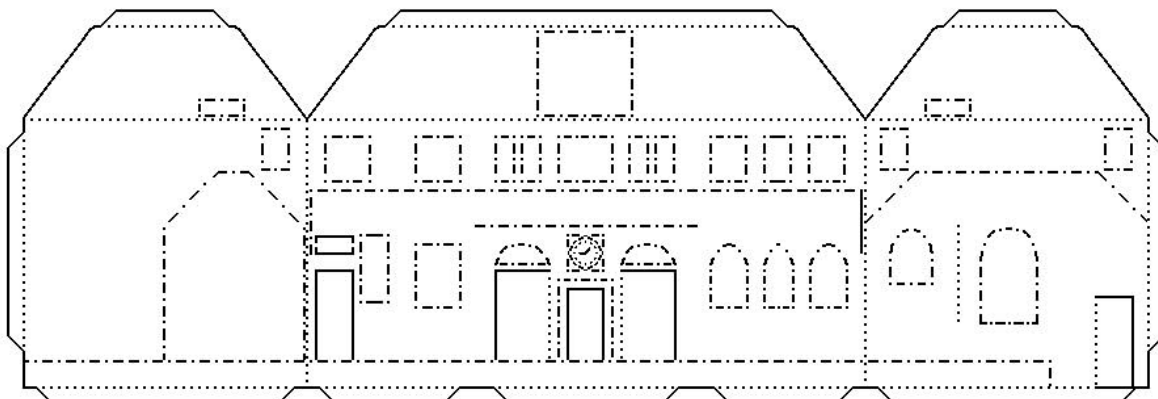


That is the last touch to the actual building of the station. All we need now is the rails themselves. Picture 60 is a half-scale plan of a length of rail. We make, say, 24 drawings of this, cut them out, and bend them into the form shown in picture 62. Notice that two of the dotted lines in each, which have the small circles near each end, must be half-cut and bent on the back of the card. The rails of a real railway are joined together by fish-plates, or short bars of iron or steel, one end being fastened to one rail and the other end fixed to the other rail. We will make a quantity of fish-plates for our railway. Picture 61 is the plan half-scale. Then we shall lay our rails, gluing them to our strawboard, in each pair making the two rails  $1\frac{1}{4}$  inches apart. When two rails join we glue on fish-plates as seen in picture 62. We put two pairs of rails from end to end of our strawboard, and if they go away beyond our platforms it is all the better. Railways are not restricted to railway stations, or we could not go far in a railway train.

We have only to put on the necessary paint to make our railway station look finished. All windows will be dark blue to imitate glass; the walls will be red to imitate bricks, the roof will be dark grey to resemble slates. All woodwork, including the bridge, we shall paint green, as well as the columns, which are supposed to be of iron, and the rails we shall have blue or grey to look like steel rails. A photograph of the completed railway station, made exactly as described, is shown.

Our next task will be to make a large hotel, which we shall erect near the railway station.

# PLANS OF MODEL TOWN RAILWAY STATION, PART 2, page 1



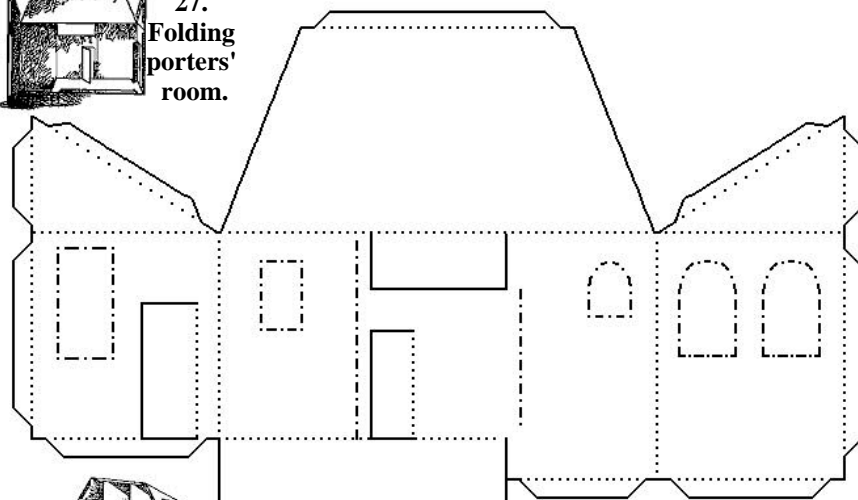
47. Plan of central hall, third-scale. Use scale rule C



27. Folding porters' room.



45. Folding central hall.



28. Partition, half scale. Use scale rule B

29. Partition, half scale. Use scale-rule B

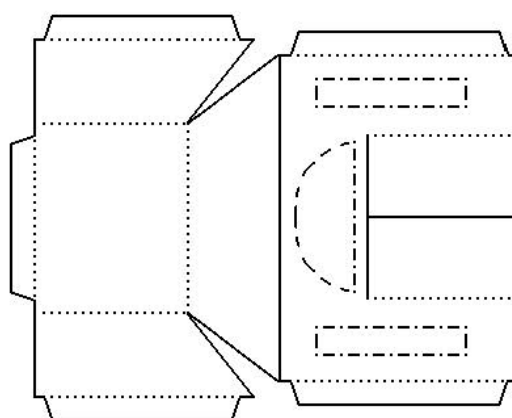


30. Porters' room, with partitions.

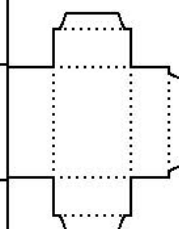
26. Plan of porters' room, half scale. Use scale rule B



55. Folding booking hall.

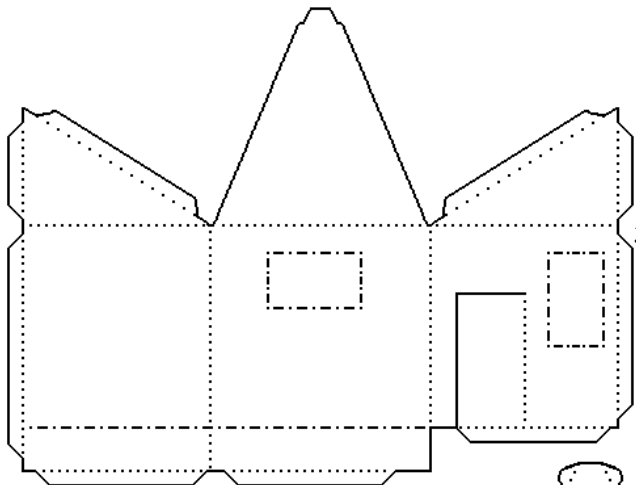


59. Plan of entrance porch, half scale. Use scale rule B

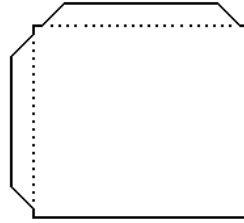


58. Plan of booking-hall, half scale. Use scale rule B

# PLANS OF MODEL TOWN RAILWAY STATION, PART 2, page 2



31. Plan of parcel office, half scale.  
Use scale-rule B



31. Plan of parcel office floor,  
half scale.  
Use scale-rule B



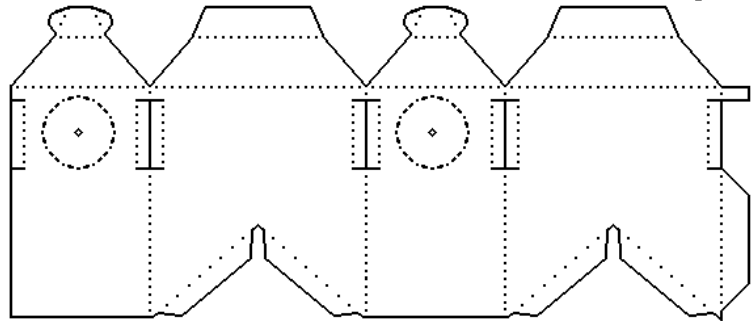
33. Bending  
parcel office.



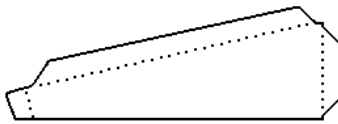
34. Parcel  
office  
complete.



35. Clock tower.



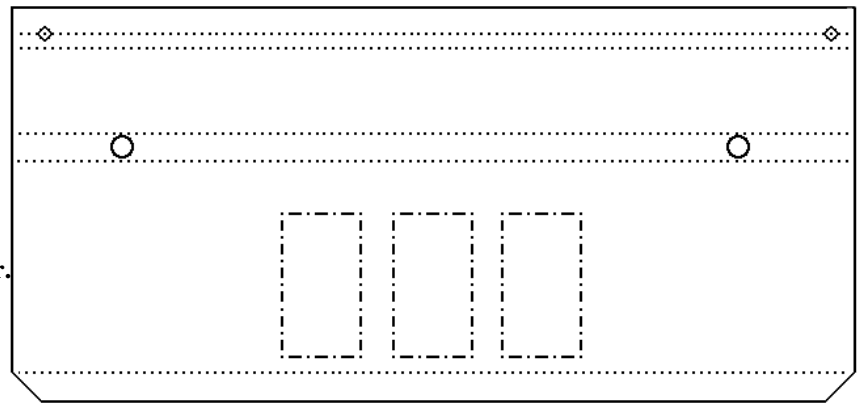
36. Plan of clock tower, half scale.  
Use scale-rule B



39. Shelter end, half scale.  
Use scale-rule B

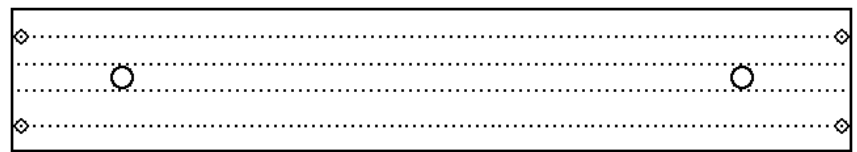
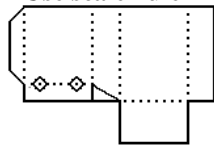


40. End of shelter.



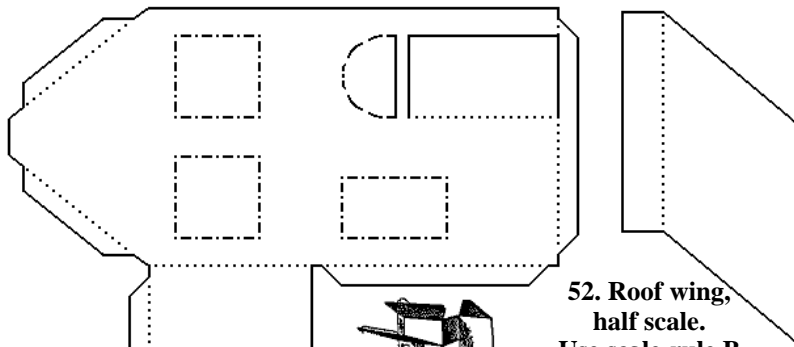
37. Plan of shelter, half scale. Use  
scale-rule B

41. Plan of chimney,  
half scale.  
Use scale-rule B

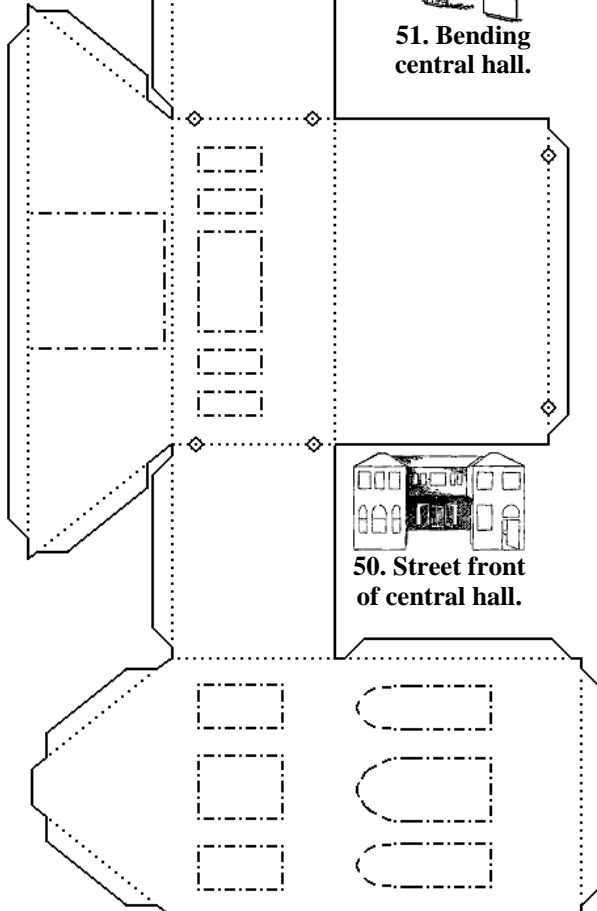


38. Underside of shelter, half scale.  
Use scale-rule B

# PLANS OF MODEL TOWN RAILWAY STATION, PART 2, page 3



52. Roof wing,  
half scale.  
Use scale-rule B



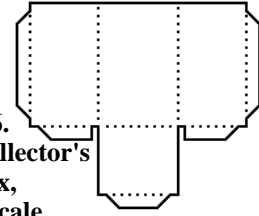
49. Street side of central hall, half scale.  
Use scale-rule B



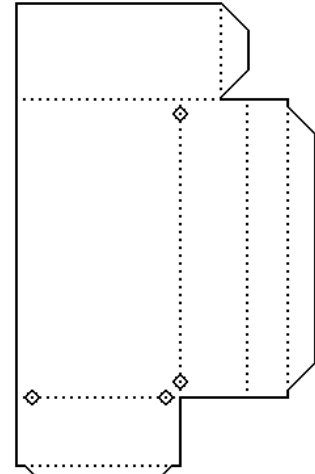
51. Bending  
central hall.



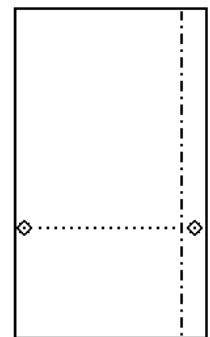
50. Street front  
of central hall.



56. Ticket collector's  
box,  
half scale.  
Use scale-rule B

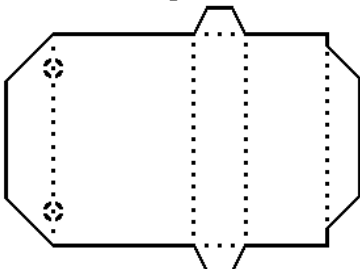


44. Plan of wall, half scale.  
Use scale-rule B

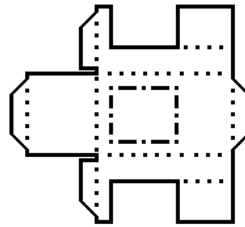


43. Plan of wall,  
half scale.  
Use scale-rule B

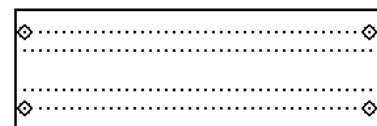
57. Plan of steps, actual size B.



42. Ticket collector's box,  
actual size.



62. Rail  
and fish-plate.



60. Plan of rail, half scale.  
Use scale-rule B



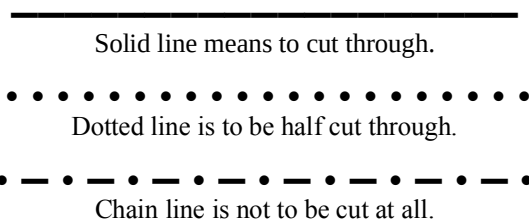
61. Plan of fish-plate, half scale.  
Use scale-rule B





### Excerpt from "PREPARING FOR MODEL TOWN"

Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

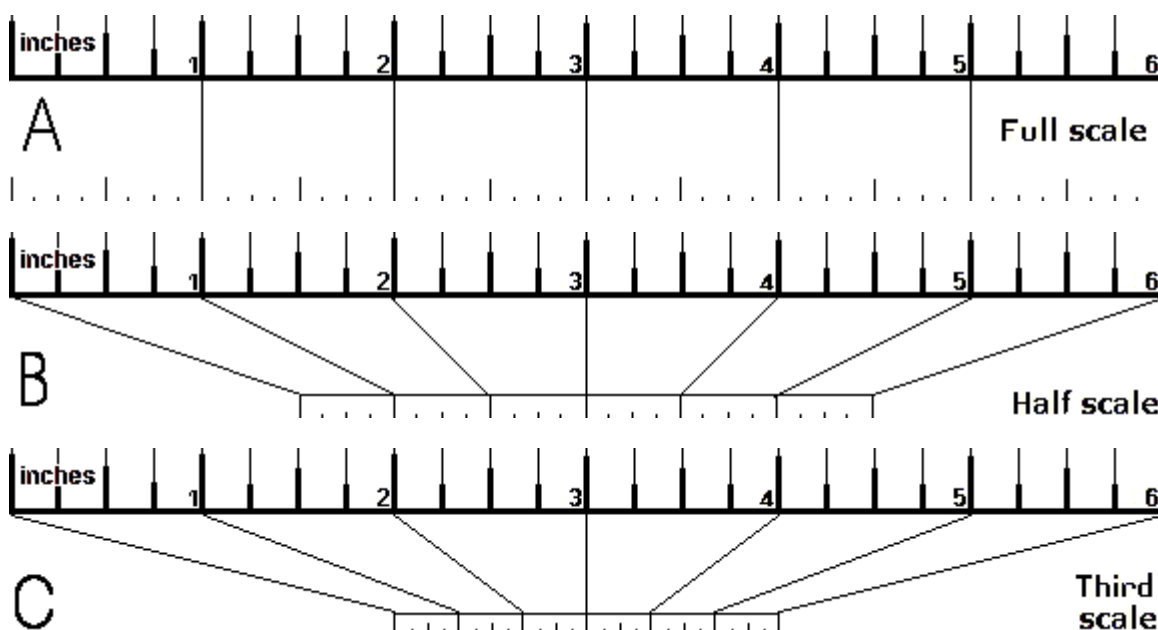
The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.



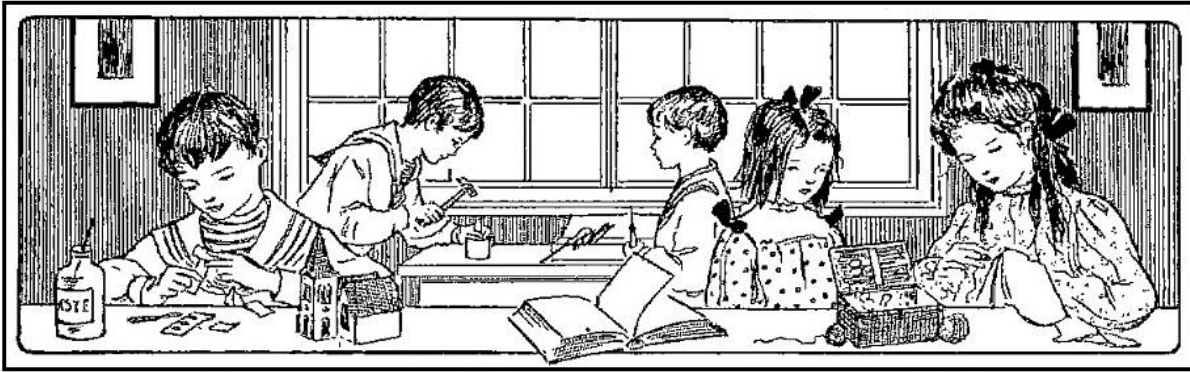
### Excerpt from "MAKING THE CHAPEL FOR MODEL TOWN"

#### 17. Shaping a pillar round a pencil.

We now make neat round columns, or pillars, one for each side of the front door. ... The columns proper, which go between the top and bottom pieces, are made round by bending them round an ordinary lead pencil. First we draw and cut out twice the plan in picture 16, to give us two columns. The picture is half-scale, so that we use scale-rule B to take our measurements, and the full-sized rule to make our lines on the card. Picture 17 shows the pillar being bent round the lead pencil. The card must be folded round the pencil tightly, and the last half-inch or so, where the card goes over itself, must be glued so as to make a tiny tube. We must be careful, however, to see that no glue goes on the pencil itself, or we should not be able to withdraw it afterwards. When the glue has set, we take out the pencil, which should be easily done. There would be no harm in leaving the pencil in the pillars if we cut it off so as to be the exact length of the card-board covering. We glue to the building the four small pieces which we made from the plan in picture 14. Their position is seen in picture 1. Then we put a little glue on the ends of the two pillars that we have made, and slip them into their proper places, as shown also in picture 1. That completes the structural part of the front.







## **Modeltown an English Village**

### **15. MODELTOWN HOTEL AND RESTAURANT**

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<b>Description</b>	<b>pages 137 - 140</b>
<b>Plans</b>	<b>pages 141 - 143</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 145</b>
<b>Scale-rules</b>	<b>page 145</b>

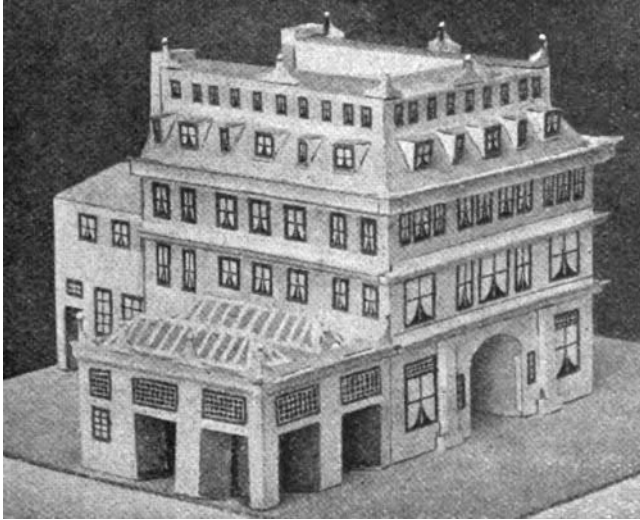
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#### **References**

*Book of Knowledge*. (1911). v. 9. pp. 2035-2041; <https://archive.org/details/TheBookOfKnowledge9>  
*Children's Encyclopedia*. (1910). v. 3, pp. 2035-2041; [www.hathitrust.org](http://www.hathitrust.org)



## MODEL TOWN HOTEL AND RESTAURANT



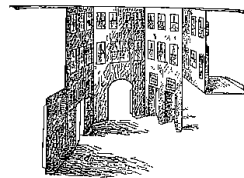
**Photograph of finished  
Modeltown Hotel and Restaurant.**

Modeltown is now growing to be a place of some size and importance. We have built a large railway station, but we have not yet provided any hotel where the people who come to the town may stay. So we will now build a hotel with a restaurant attached. As we expect Modeltown to grow still further, the hotel will be a good, large one. A general view of it is shown in the photograph. From this side it looks like one large house with a smaller one attached to the side of it. The hotel itself consists of an outer square shell which forms the outside wall, and an inner square shell which forms the interior wall and encloses a well right in the middle of the block. The reason for making the well is that the rooms that have no windows in any of the outer walls may be lighted from the back. The ground floor is made so as to form with the restaurant at the side a winter garden, containing a bandstand, from which the guests at the hotel can be entertained with music as they sit at the tables. After examining carefully the finished appearance of the work we are about to do, as seen in the photograph, we will proceed to make it.

The first thing we require is a large piece of cardboard or strawboard, and upon this we shall build the hotel. The card should be about 10 inches square.

The first plan drawing is in picture 2, and is half-scale, so that we use scale-rule B to take the sizes

from the picture and make the lines on the card with our full-sized scale-rule. We remember, of course, how to treat the three kinds of lines shown in the plan drawings and as explained in "Preparing for Modeltown." We must also observe that the three lines in picture 2 which have a small circle at each end should be half-cut, not on the side of the card where the drawing is made, but on the back of the card at the places marked.



**3. Folding the outer  
walls.**

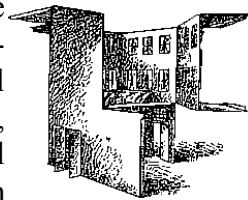
Having made the drawing and cut out the card, we bend it around as seen in picture 3. It will be seen that we bend it so as to make the windows inside and not outside. The reason is that this part is the piece that makes the inner walls of the hotel, and that these windows look out upon the well formed by the walls when they are bent around. The four large parts at the top of each side fall outwards, and the side opposite the arched doorway has a part that folds upwards as seen in picture 3. We now glue the piece on to the cardboard which is to serve as a foundation. It should be placed in the middle of the card, and in gluing it down we should see that the four sides are made to form a square exactly. This may be tested by measuring the distance between the two pairs of opposite corners. These two distances should be exactly the same.

Now we draw the plan given in picture 4, which is one-third scale, so that we use scale-rule C to take the sizes from the picture, and make the lines on the card with the full-sized rule. We cut this piece out after it has been drawn, remembering to half-cut the lines having the tiny circles, not on the drawing side of the card, but on the opposite side. This piece folds up and forms the outer walls of the main part of the hotel. Having cut it out, we put it aside in the meantime.

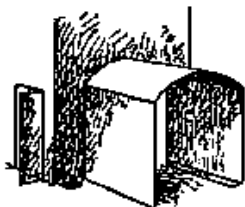
We will now make the plan drawing given in picture 5. It is actual size in the picture, so that we use the full-sized scale-rule both for taking the sizes from the picture and for making the drawing

on the card. We must notice that the lines with the small circles at the ends should be half-cut and folded on the back of the card and not on the drawing side of it.

Picture 6 is half-scale, and we will require two of it. Therefore we make two drawings upon our 7. **Glass well roof.** card, using scale-rule B to take the sizes from the picture, and cut them out, noticing that two of the lines on each have to be half-cut and bent on the back of the card. We then bend up and glue together the piece made from picture 5, and the two pieces made from picture 6. These represent a glass-paned roof for inside the well made by the interior walls, and when glued together will look like picture 7. When glued into position between the walls, the roof will be as seen in picture 8. If we have fixed the inner walls on to the foundation card correctly — that is to say, exactly on the square — the glass roof ought to fit the place exactly.



**8. Glass roof in position.**

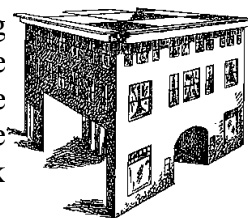


**8. Glass roof in position.**

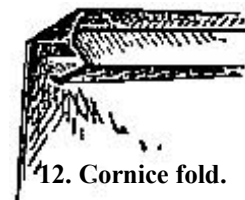
The plan in picture 9 is half-scale, so in making it we use scale-rule B. After cutting it out, we attach it to the arched doorway, as shown in picture 10, the slips on the doorway in picture 2 being glued to the sides of the hallway made from picture 9, and the bottom

slips of the latter being glued to the foundation board.

Now we turn to the drawing which we made from picture 4, and which we put aside after having cut it out. We bend it up so that it will look



**10. Hall-way fixed.**

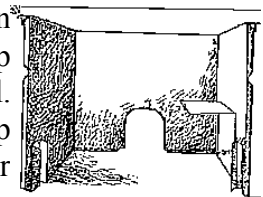


**12. Cornice fold.**

like picture 11. The reverse half-cuts in the upper parts of the sides are bent over to make a heavy cornice, something like the edge we made to the platform of the railway

station. Picture 12 shows the bends of the cornice more plainly than picture 11. In making it a little thin glue should be put inside the extreme front edge, which should be pressed flat with the help of a rule until it is hard.

When we have got so far, we proceed to glue the outer walls to the foundation card, and must be careful to do this in the proper position. This position is not difficult to find. In picture 10 we see the arched hallway which we glued to the inside wall. The arched doorway in the outer wall is fixed at the other end of this arched hallway, the slips at the side of the arched doorway being glued to the sides of the hallway. Also we see at the right-hand side of picture 8 that there is a flap sticking out horizontally. This flap is glued to the inner side of the outer wall. In picture 13 is seen a flap folding inside the outer wall. The folded edge of this flap must be glued to the inner wall opposite it. By getting the arched doorway into the proper position, by seeing that the four outside corners of the house are square, and by gluing the two connecting flaps into position, the two walls cannot fail to be correctly fixed.



**13. Folding the outer walls.**

We will now make the restaurant, which is the single-story part shown on the left-hand side in the photograph. The plan of the walls of the restaurant is given in picture 22. It is half-scale, so that we use scale-rule B to take the sizes from the picture and the full-sized rule to make the drawing upon the card. Observe the lines that must be half-cut and bent in the opposite direction from usual. When being bent around, this piece will look as shown in picture 14.



**14. Folding the restaurant walls.**



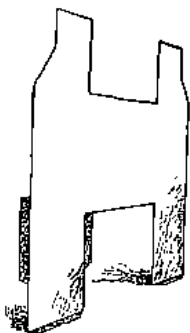
**17. Bandstand in position.**

But before gluing the restaurant walls to the hotel, we must make the bandstand for the interior of the restaurant. We make drawings of pictures 24 and 16, making both full size. In picture 22 is

a half-circle showing where the top of the bandstand fits, and we glue up the drawing made from picture 24 so as to fit this place. Picture 16 is the plan of the stairway, and we have already made it. We now glue it to the floor, and the bandstand is seen as in picture 17, which also shows a few pillars supporting the bandstand at its front edge. These pillars we can make from wooden matches, and fit in if we care to, but it will do all right without these. Two sides of the restaurant have a cornice something similar to that on the hotel. This cornice is bent up as already explained and as shown in picture 12.

We will now attach the restaurant walls to the hotel. The gluing slip at one end is glued to the side of the hotel as seen in the photograph, the side with the two large doors is in line with the front of the hotel, the side with the two doors and a window form the back of the restaurant, and extends as far as the inner wall of the hotel. The fourth side turns to the right at a right angle, and is glued to the fourth side of the hotel. The gluing slips that touch the floor must be bent inwards and glued to the foundation card, and care must be taken to keep the two corners of the restaurant square.

The next part of our hotel which we will undertake is the fourth wall of the hotel proper — really the back wall. This part is simple. It consists only of a wall with the middle of the lower part thrust back. Its plan is given half-scale in picture 18, so we use scale-rule B to take the sizes from the picture, and make the drawing on the card with the full-sized rule. We cut this part

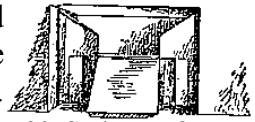


**19. Bending back wall.**

out and bend it into the shape shown in picture 19, but do not yet glue it into position. The staircase is to be built against this part. The plan of the staircase is given in two parts — in pictures 21 and 15. Both are half-scale, so that in making them we use scale-rule B for taking our measurements from the pictures. Picture 15 is the plan of the stair-way itself, and picture 21 of the surrounding partition with two swinging doors leading into the hotel. We make drawings of both 21 and 15 upon our card, and cut them out,

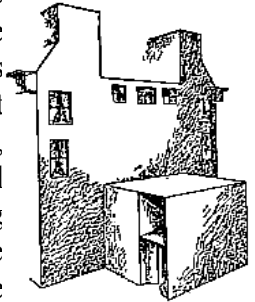
observing carefully the lines that must be half-cut and bent on the opposite side from the drawing.

Then we bend the pieces and glue them together in the position shown in picture 20.



**20. Staircase from inside.**

We now fix these pieces to the back wall which we have made. The folding middle portion of the back wall goes over the staircase, so that from outside all three parts, when glued together, will look like picture 23. Having done all this, we put this piece aside until we have progressed further with the



**23. Staircase fixed to wall.**

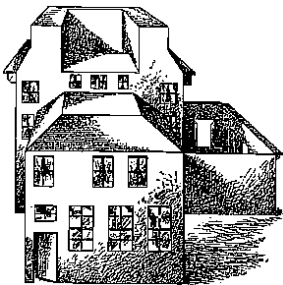
A glance at the photograph will show that there are two stories of the hotel above the ornamental cornice which we have already made. We will make these pieces next. Picture 25 is the plan of the portion above the hotel main door. It is half-scale, so we must use scale-rule B in taking the sizes from the plans. Notice that two of the lines must be half-cut and bent on the reverse side. As we bend it up we must remember that its lower portion is a sloping roof with dormer windows, and that the upper row of windows are plain with the wall around them upright. The part with sloping sides above the windows is the roof, and the top portion of it bends back and forms the inner wall of the front. Care is required to get everything exactly right, but it is not very difficult.

Next we make the two top stories of the hotel on the left side — that is to say, on the side above the restaurant. Picture 26 gives the plan of this part. It is half-scale, so again we use scale-rule B in taking the measurements. We must observe the reverse half-cuts and bend here also. This piece is bent up and fixed into position in the same way that we did the top stories of the front. Now we want the top stories on the side opposite the restaurant, the side that is not seen in the photograph.

We make another drawing of picture 26, again using scale-rule B, but this time we make a right-

hand drawing instead of a left-hand drawing. This means that we must reverse the drawing we have already made. The best way to do this is to make it on the card just as we did before, and then pierce the card with a fine in or a needle at the corner of every window. Then we make another drawing on the back of the card, following the pinholes. We glue this piece into position, and we have then completed the two top stories all round. We must be careful as we fix them on that the corners of the different pieces fit each other neatly, as they ought to do, otherwise the finished hotel will look ugly.

We are now ready to glue into position the fourth outer wall, which we have already made, and to which we attached the staircase and swinging doors. It is seen on picture 23 glued to the back of the hotel, which it will fit exactly. The gluing slips must be bent over to right angles, and the glue should be rather thick that it may hold firmly and set quickly. We glue the bottom slip of the stair to the foundation board.



**30. Hotel with kitchen.** We have yet another important part of the hotel to make, namely, the part to contain the kitchen and store-rooms. This portion is seen finished in picture 30. It is really another building attached to the back wall of the hotel. The plan of this part is given half-scale in picture 27, which means that we must use scale-rule B to take the sizes from the picture, and make the drawing on the card with the full-sized rule. The piece consists of a front with a door and several windows, two side walls, one of which has a door, and both of which have several windows. The roof when bent into shape has a flat top and three sloping sides. When we have glued the roof into place we may glue the whole of the kitchen part on to the back wall of the hotel, which we shall find that it fits. Picture 30 shows us the hotel at this stage. We notice that the restaurant has no roof, so we will now proceed to make one.

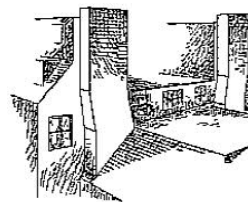
Picture 29 is the plan of the frame of the restaurant roof. It is half-scale, so we use scale-

rule B to take the measurements. We must notice also that some of the lines — those with the small circles at each end — must be half-cut and bent on the side of the card opposite from the drawing. Then we make two drawings of the plan given in picture 28, which is also half-scale, so that again we use scale-rule B to take the measurements. We have here also some lines that must be half-cut and bent on the opposite side from the drawing. We already made a glass roof for the interior wall of the hotel, and we glue the three parts to make this one in the same way.

Picture 32 shows the roof when completed, the view being from below. It is not **32. Restaurant roof.** intended to glue the roof into position on the top of the restaurant. It will be better to have it lift or slide off, and the end slip seen in picture 32 will serve as a handle. Some matches should be glued to the wall inside, so that the roof may rest upon them.



Picture 31 is the plan of the chimneys, of which we require two. The plan is actual size. But one of the chimneys is made the reverse of the other, as one is for the left — hand side and one for the right-hand side. We therefore make two drawings,



**33. Chimney in position.**

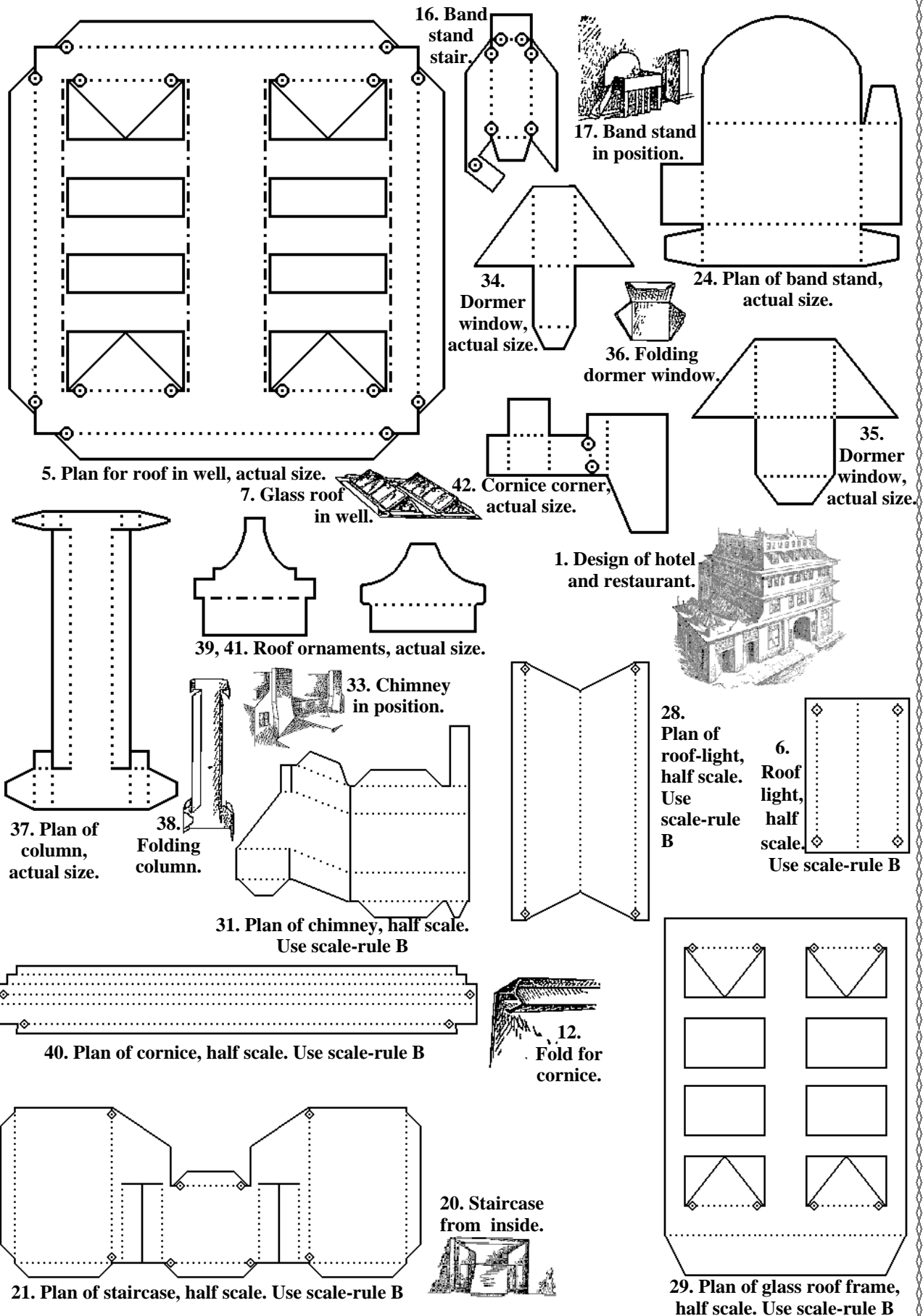
one of which we half-cut and bend from the back. The position of the two chimneys is seen in picture 33. It will be noticed that they project a little higher than the roof of the hotel. On the sloping part of the walls above the cornice are some dormer windows — some of them being wide and some narrow. We require nine wide windows, so we make and cut out the drawing in picture 34 nine times, and we require eight narrow windows, so we want the drawing in picture 35 eight times. Both of these are actual size. Having made these, we glue them into their places as indicated by the dotted lines in pictures 25 and 26. Picture 36 shows a dormer window being folded in shape.



**36. Folding dormer window.**

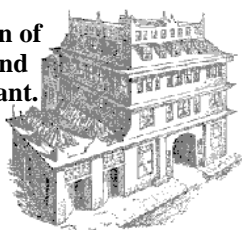


# PLANS FOR MODELTOWN HOTEL AND RESTAURANT, page 1

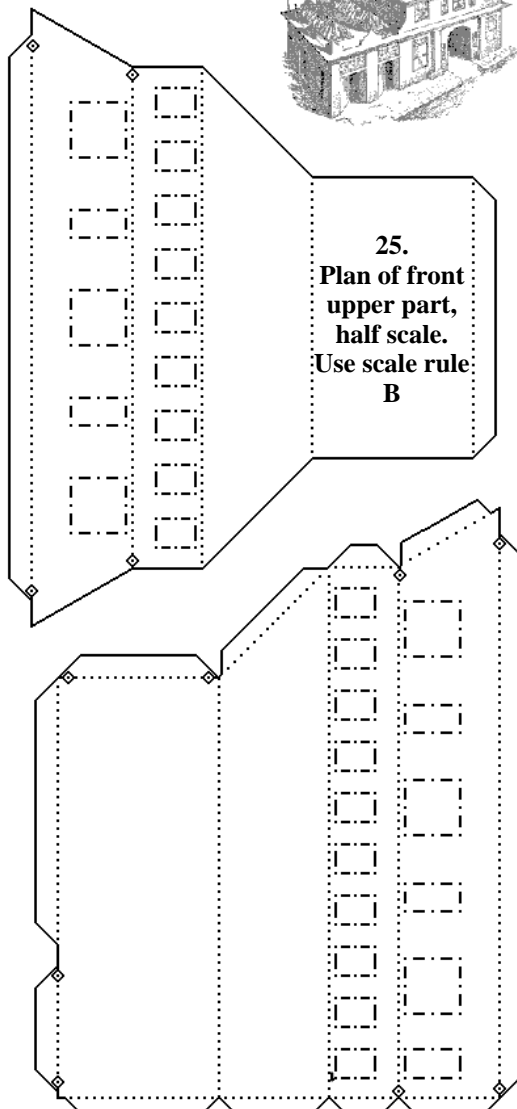


# PLANS FOR MODELTOWN HOTEL AND RESTAURANT, page 3

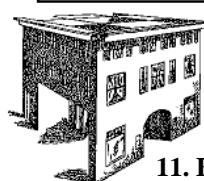
1. Design of  
hotel and  
restaurant.



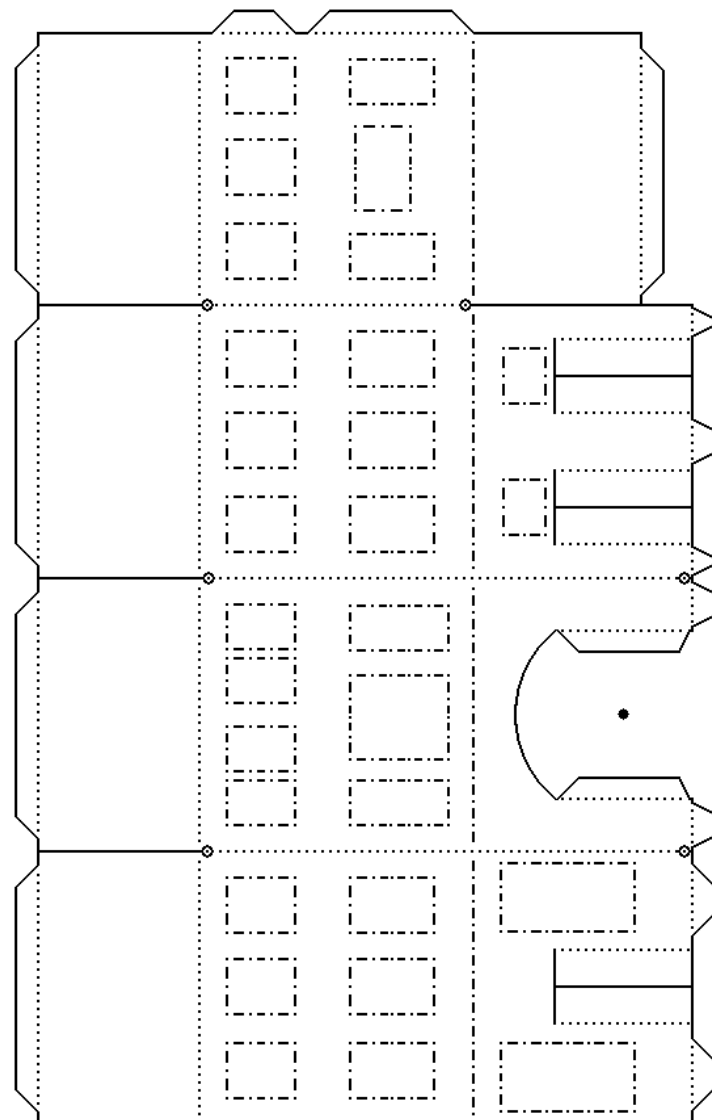
25.  
Plan of front  
upper part,  
half scale.  
Use scale rule  
B



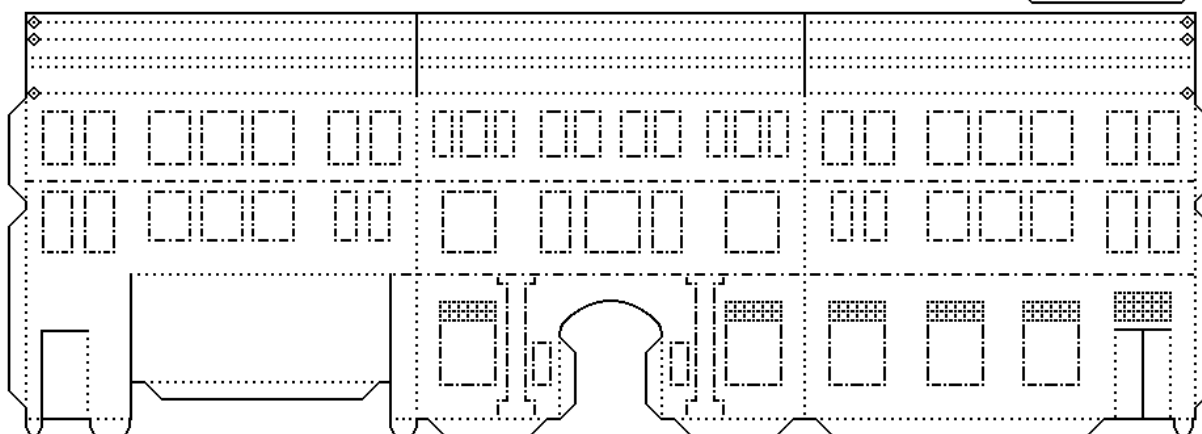
25. Plan of side upper part, half scale.  
Use scale rule B



2. Plan of the  
inner walls,  
half scale.  
Use scale rule B

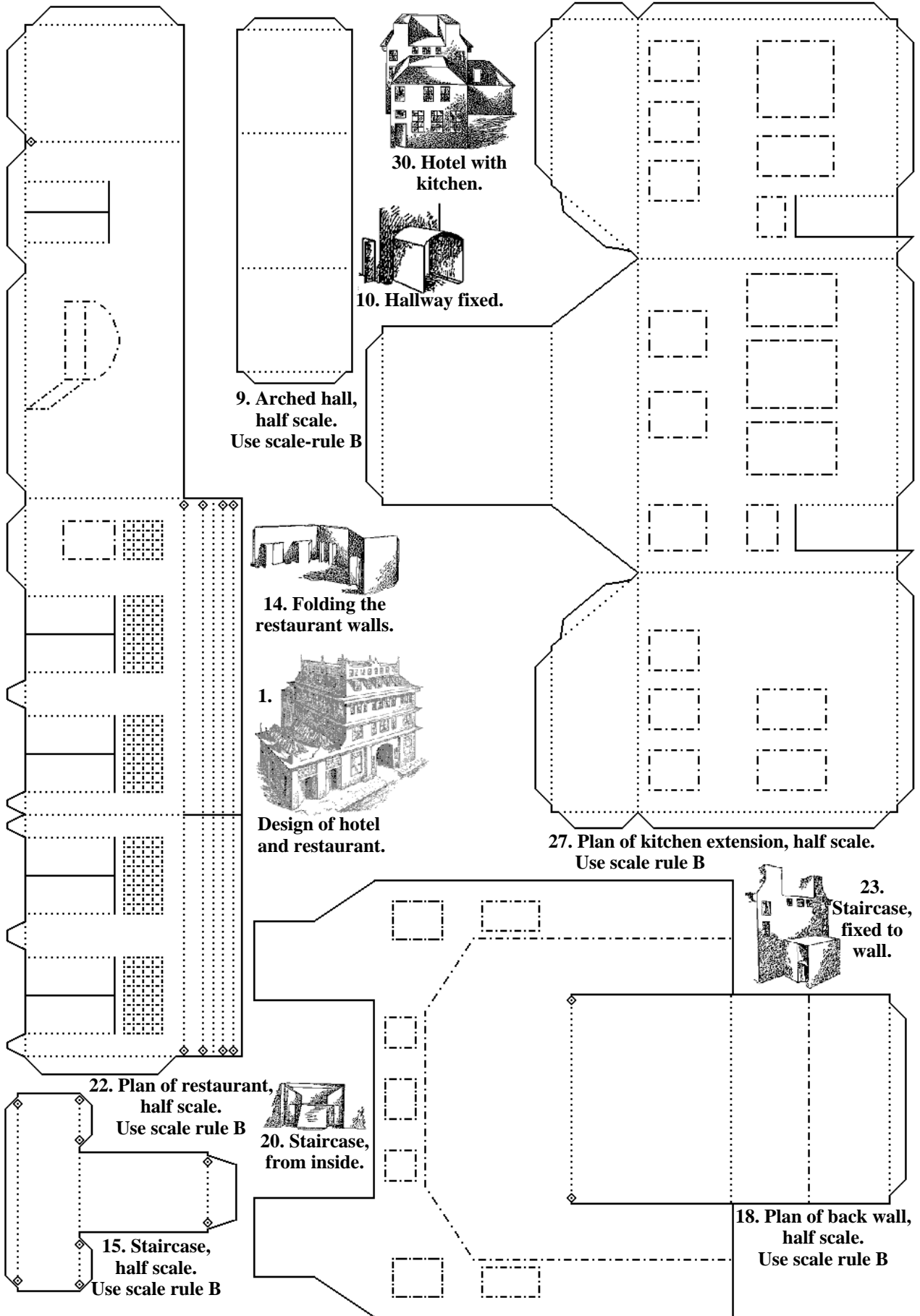


11. Folding up the outer walls:



25. Plan of outer walls, one-third scale. Use scale rule C

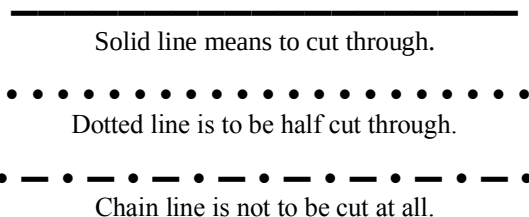
# PLANS FOR MODELTOWN HOTEL AND RESTAURANT, page 2





### Excerpt from "PREPARING FOR MODELTOWN"

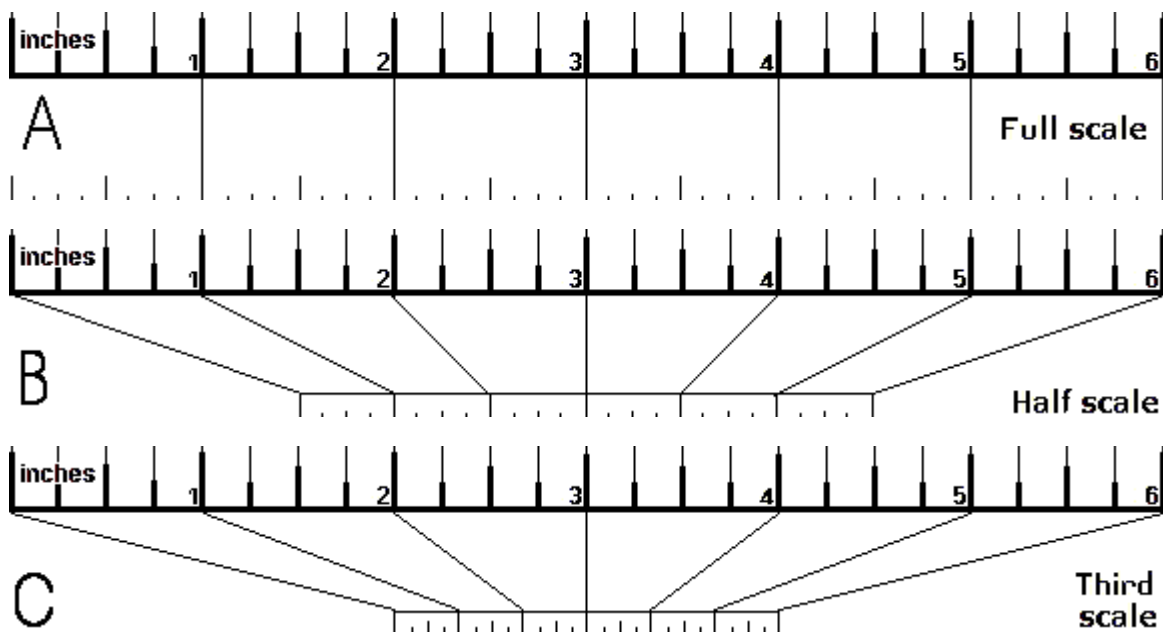
Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.







## **Modeltown an English Village**

### **16. MAKING MODEL TOWN FIRE STATION**

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<b>Description</b>	<b>pages 149 - 150</b>
<b>Plans</b>	<b>pages 151 - 152</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 153</b>
<b>Scale-rules</b>	<b>page 153</b>

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#### **References**

*Book of Knowledge*. (1910). v. 10, pp. 2352-2355; <https://archive.org/details/TheBookOfKnowledge10>  
*Children's Encyclopedia*. (1910). v. 4, pp. 2352-2355; [www.hathitrust.org](http://www.hathitrust.org)



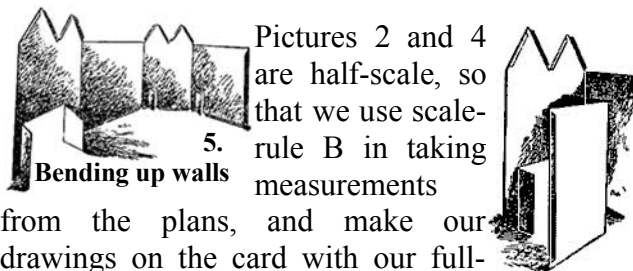


## MAKING MODEL TOWN FIRE STATION

Every large town has a fire station, where fire-engines with their horses and fire-escapes are kept ready to hurry to any building that may be in flames; otherwise, any fire might spread until it did great damage to property and caused loss of life. We shall see how to make a fire station for Modeltown in this part. When finished, our fire station will be as seen in picture 1.

The building consists of two parts — first a house, the ground floor of which can accommodate the engines with their horses, and the upper part of which has living apartments for the men; and secondly a high clock tower, the under part of which has room for the fire-escape, and the upper part a few bedrooms that communicate with the house. These two parts are to be made separately, and then later they can be glued together.

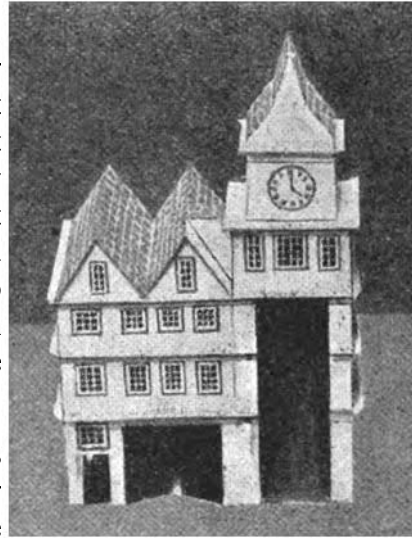
We have seen in “Preparing for Modeltown” the meaning of the three kinds of lines in the plans, and we now know well that when there are tiny circles near the ends of a dotted line, that line must be half-cut through, not on the drawing side of the card, but on the opposite side. Bearing these things in mind, we proceed with the plans given in pictures 2, 3, and 4, making them upon our cardboard and then cutting them out and bending them up.



5. Bending up walls

Pictures 2 and 4 are half-scale, so that we use scale-rule B in taking measurements

from the plans, and make our drawings on the card with our full-sized rule. Picture 3 is one-third scale, so that in drawing it we use scale-rule C to take our measurements. Pictures 3 and 4 have lines which we must half-cut and bend on the reverse side of the card. Picture 5 shows the card which we make from the plan in picture 2, as it is being



Modeltown Fire Station

bent around. Picture 6 shows how the piece made from picture 4 is glued into position against the inside wall of the piece made from picture 2. This forms the engine-room. Picture 3, which we have already made and cut out, forms the roof, which we glue into place, and then the first part of our fire station will be as seen in picture 7.

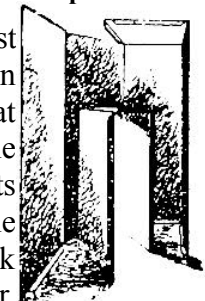
We now make the tower, of which pictures 8, 9, and 10 are the plans, all being half-scale. In



1. Modeltown Fire Station

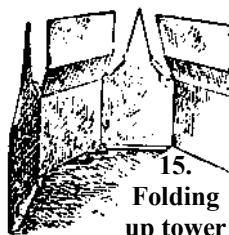


13. Position of escape house



14. Inner walls fixed

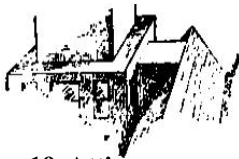
the two circles of picture 10 we can draw two clock-faces with hands. We use scale-rule B in taking the sizes from the picture. Make two pieces from picture 8. Pay attention to the reverse side half-cuts and bends in 8 and 10. In picture 12 we see the piece made from picture 9 as it is being bent up. The two pieces made from picture 8 form the inner walls for the fire-escape house and they must be glued into position as seen in picture 14. Observe the flap that forms the roof. Now glue up the four walls of the tower. Into its square its square shape, and the back main wall will form the back wall of the fire-escape chamber. Now glue the fire-escape house and the fire-escape tower together as in picture 13.



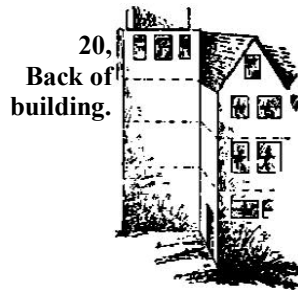
15. Folding up tower

Now we make the top of the tower, the plan of which was given in picture 10, and which we have already drawn and cut out. When being folded up, this portion will look like picture 15, and when fixed to the under portion of the tower, the structure will be as seen

in picture 19. The back of the tower with fire-engine house attached is seen in picture 20.



**19. Attic passage  
glued into position.**



**20,  
Back of  
building.**

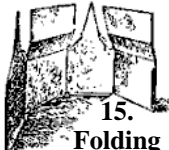
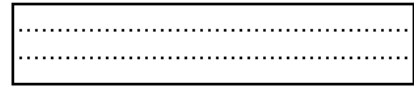
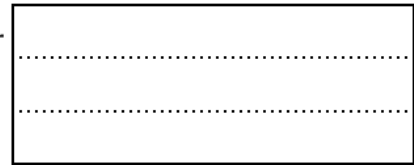
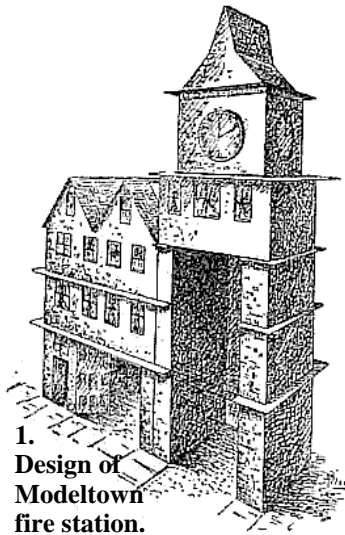


**11.** We have not yet provided any means  
Attic of access to the bedrooms at top of  
passage the fire-escape tower. Make and cut  
folded. out the plan given in picture 18. It is  
half-scale, so we use scale-rule B. Now fold and  
glue it into shape, as seen in picture 11, and glue  
it into the angle made by the roof of the fire-  
engine house, as it is resting against the tower.  
See picture 19.

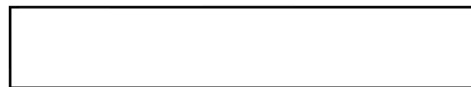
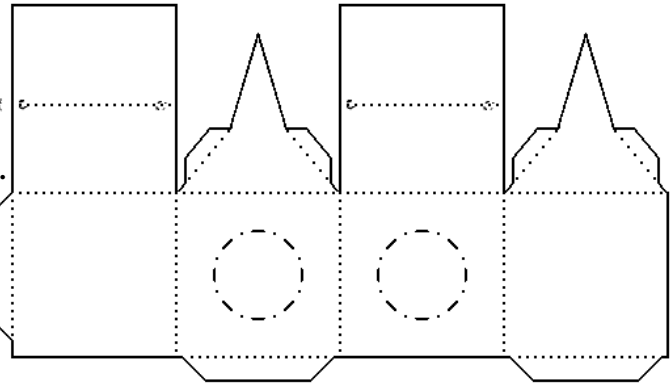
In the photograph it will be seen that there are flat moldings or ledges between the floor of the fire-engine house and all round the tower. The lowest molding is a little wider than the others. Measure the length necessary from the building itself, and make strips, like picture 21, of the necessary length. Picture 21 is the actual size. Fold the strips up like picture 16, and glue them into position right round. The next two moldings and the molding above the clock are made in the same way, but from picture 22, which is not quite so wide. It also is actual size in the picture. Then the ledge under the clock is cut out in four pieces the same width as picture 23, and the length necessary to round the tower. It is glued into place and our building is complete.

We can paint the roof red to imitate tiles, and make all the doors red, the windows blue, and leave the walls white.

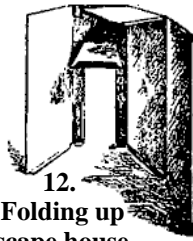
# PLANS FOR MODELTOWN FIRE STATION, page 1



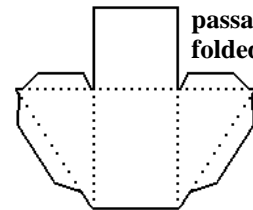
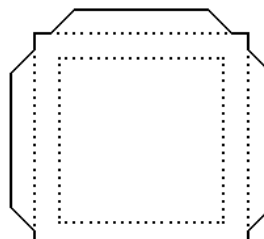
10. Plan of tower, half scale. Use scale rule B



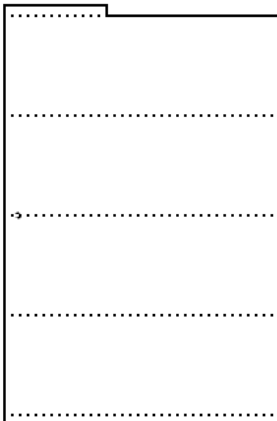
18. Plan of attic passage, half scale. Use scale rule B



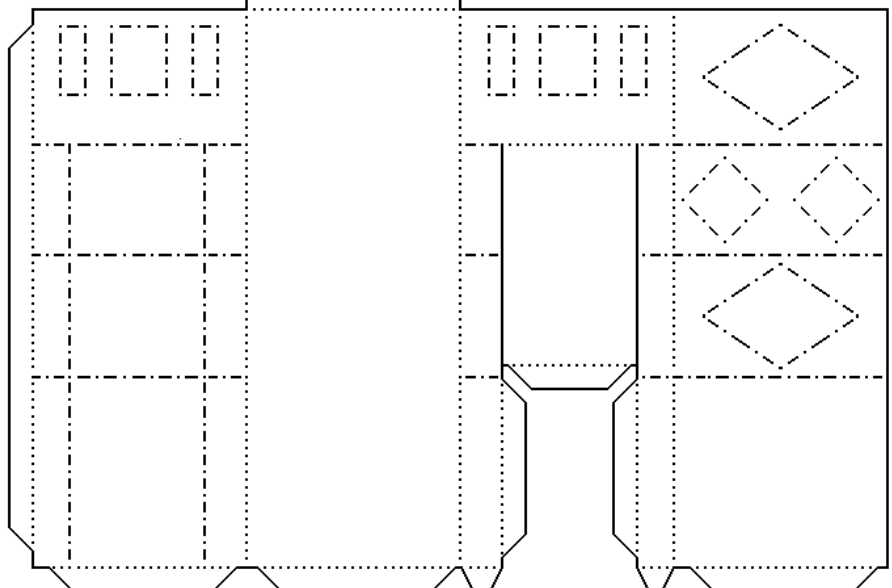
12. Folding up escape house.



13. Position of escape house.

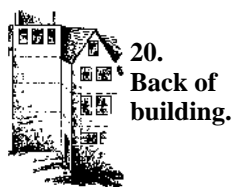


3. Plan of engine house roof, one third scale. Use scale-rule C

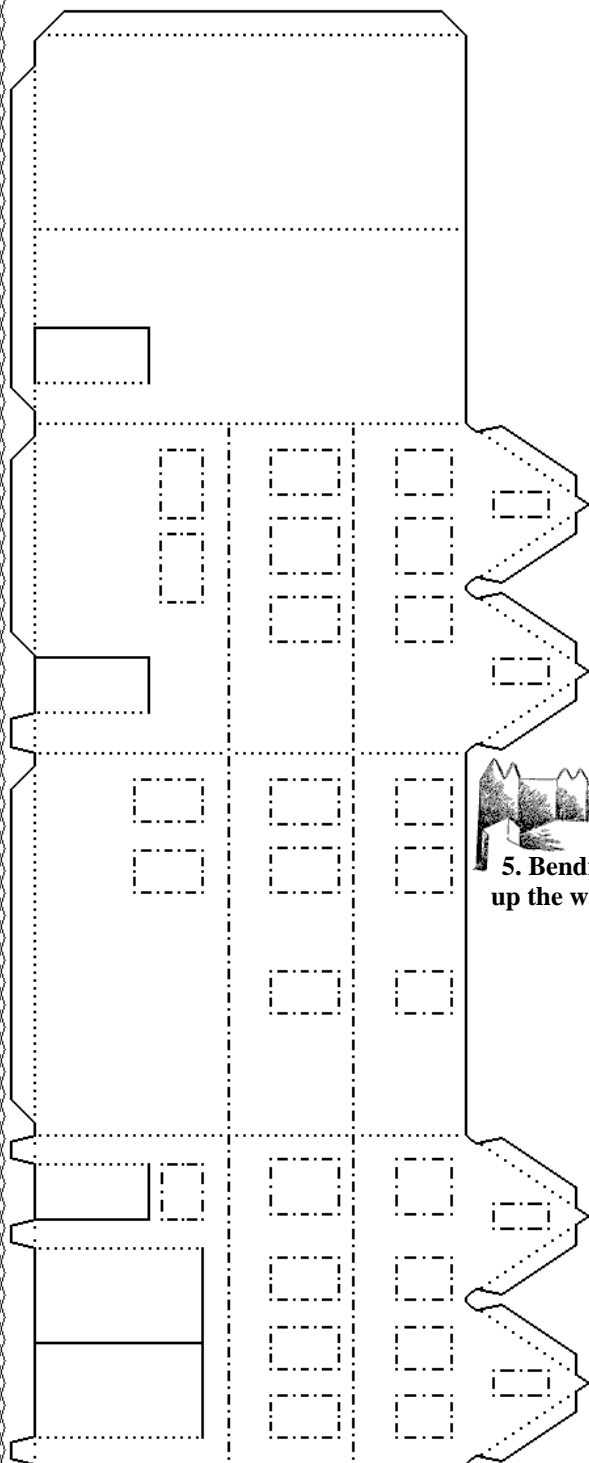


9. Plan of fire escape house, half scale. Use scale-rule B

# PLANS FOR MODELTOWN FIRE STATION, page 2



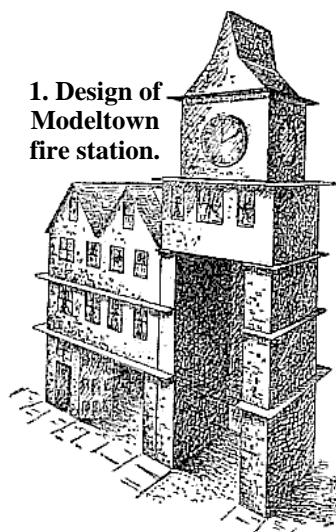
20.  
Back of  
building.



2. Plan of engine house, half scale. Use scale rule B



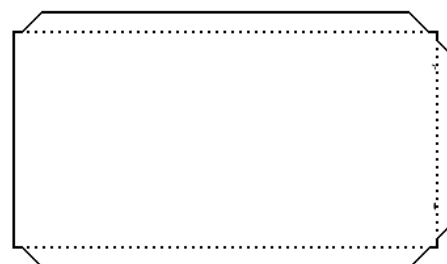
5. Bending  
up the walls.



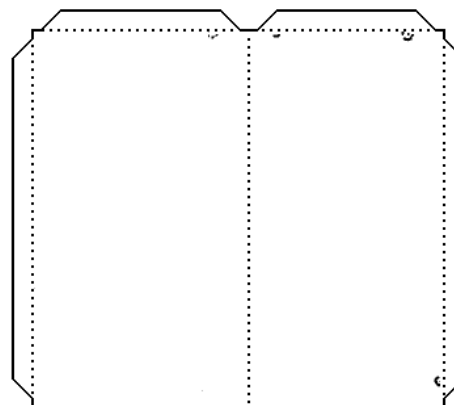
1. Design of  
Modeltown  
fire station.



6.  
Inside  
wall or partition.



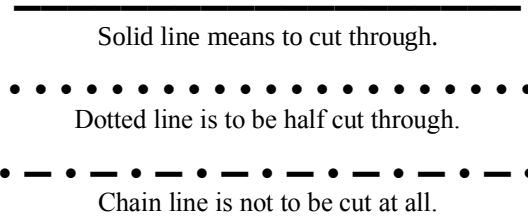
8. Plan of inside wall, half scale.  
Use scale rule B



4. Plan of inside wall, half scale.  
Use scale rule B

### Excerpt from “PREPARING FOR MODEL TOWN”

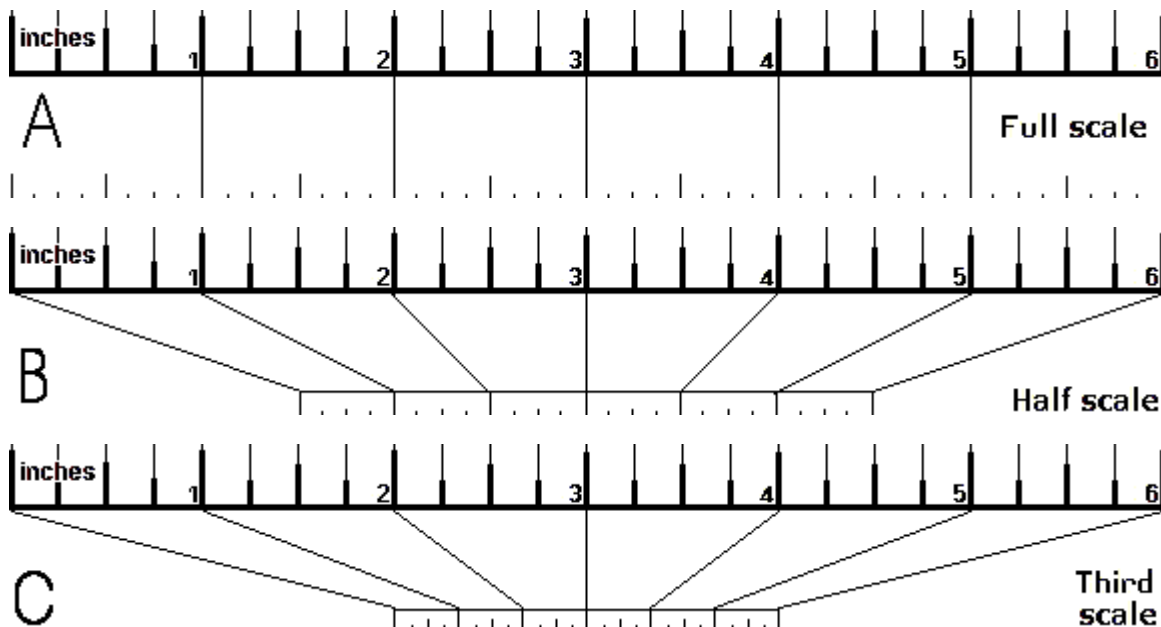
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## **Modeltown an English Village**

### **16. MAKING MODELTOWN GASWORKS**

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<b>Description</b>	<b>pages 156 - 161</b>
<b>Plans</b>	<b>pages 163 - 166</b>
<b>Excerpt of "Preparing for Modeltown"</b>	<b>page 167</b>
<b>Excerpt of "Making the chapel for Modeltown"</b>	<b>page 167</b>
<b>Scale-rules</b>	<b>page 167</b>

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#### **References**

*Book of Knowledge*. (1911). v. 12, pp. 2687-2695; <https://archive.org/details/TheBookOfKnowledge12>  
*Children's Encyclopedia*. (1910). v. 5, pp. 2661-2668; [www.hathitrust.org](http://www.hathitrust.org)



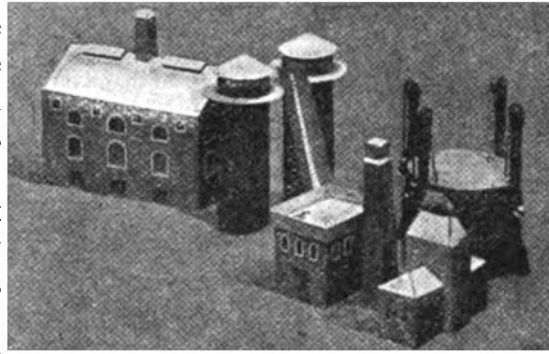


## MAKING MODEL TOWN GASWORKS

As towns grow in size the people usually get what are called public services, which include such things as gasworks and waterworks, and sometimes electric-light works, and a tramway system. When the town was only a few houses, and was then not really a town, but only a village, it would not have been worth while to put up gasworks. There would have been so very few people to use the gas that its manufacture would not have paid. But now, when Modeltown has grown into an important town with a railway station, a large hotel, and many houses and shops, we can erect gasworks. We shall therefore do so now.

We have all seen the large gasholders that move up by the help of wheels as the gas flows into them after it is made, or that sink down into the ground as the gas is used up in the gas-lamps and stoves of the town or city. But a complete gasworks is much more extensive than merely the gasholders. There is first the building — called the retort-house — where the gas is made from the coal; then there are two high towers where it is washed free from tar by falling water; there is a boiler-house and an engine-house containing an engine and pumps to force the gas through the pipes to the large gasholders. All these buildings, although they are quite numerous, are very easy to make.

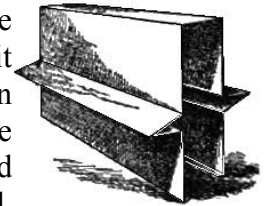
We shall begin with the retort-house, where furnaces are always burning and heating the *retorts*. A retort is just a sort of oven in which the coal is roasted in order to set free the gas which the coal contains. The retort-house, when completed, will be like picture 1. Remembering the instructions about making the drawings upon our building card, and cutting them out, and also the meaning of the three different kinds of lines as explained in “Preparing



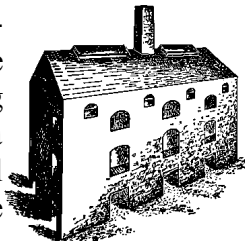
for Modeltown,” we make drawings from pictures 2, 3, 4, 5, and 6. Pictures 3 and 6 are one-third scale, so in drawing them we use rule C for taking our sizes and making our lines upon the card with our full-sized rule. We make two pieces of each

of these. Pictures 2, 4 and 5 are half-scale, so for them we must use scale-rule B. As we fold up the drawing we make from picture 2, we must notice that some of the lines must be half-cut and bent on the opposite side of the card from the drawing, as already explained in “Preparing for Modeltown” and elsewhere.

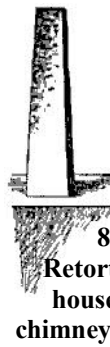
As we bend up the card of the piece made from picture 2, it will take the shape shown in picture 7. At each side there will be a long ledge formed by two thicknesses of card.



Put thin glue between the surfaces that touch, and this will make strong ledges or stages upon which the men would work if ours were a real gasworks. The retorts are above these stages and the furnaces are below them. When this has been done we glue into each open end, seen in picture 7, one of the pieces we have already made from picture 4. That will give us a building closed on every side and having a ledge or stage back and front. Glue this down to a sheet of cardboard or strawboard, which will form the ground for our gasworks.



1. Retort house.



Now fold up the drawing we made from picture 5 into the shape of a square tapered funnel or chimney-stack, and glue it to the top of the building we have made, fitting it to the square shown upon the drawing in picture 2. The middle of the top of the building with the funnel fixed into position will be like picture 8.

Now cut out the piece made from picture 3, and fold it up as shown in picture 9. We find that there are three holes in the roof, one square hole in the middle for a chimney-stack and

two larger oblong holes for ventilation. We cut eight short pieces from wooden matches, and with their help glue above the oblong roof holes the two pieces of card we made from picture 6, so that they will look like picture 10. We now drop the whole building down over the tall chimney and over the interior we made from picture 2, and the whole retort-house will be complete, as already seen in picture 1.

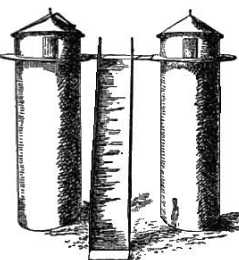


9. Folding walls of retort house.

10. Retort house ventilator.

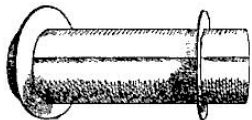


The next part of our gasworks is our washing and scrubbing towers, which are shown complete in picture 11. To make the bodies and the tops we must use very thin cardboard, as they have to be bent to circular shape; perhaps good, thick notepaper will do as well. We make two pieces from picture 12, which is one-third scale, and therefore requires the use of scale-rule C, and two pieces from picture 13, which is half-scale, and for which we use scale-rule B. Now draw upon stouter cardboard, and cut out, two rings as shown in picture 14, and six circles or discs as shown in picture 15, both of which are half-scale, so that we use scale-rule B for both. We should use compasses in making the circles, and when we make circles from a half-scale drawing, the simple way is to take the diameter of the drawing with our compasses and use that distance for the radius of the circle on our card.



11. Washing and scrubbing towers.

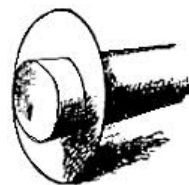
Make and cut out the drawings in pictures 16 and 17 — one of each — which are half-scale, and therefore require scale-rule B in taking the measurements from the pictures. One line in picture 17 shows that the card must be half-cut and bent on the back of the card. We have now all the pieces for the towers, and have only to put them together. It is quite easy to make the towers themselves. Roll



18. Making a tower.

up one of the pieces made from picture 12, and put the roll inside two of the rings made from picture 14. The long piece will tighten itself up inside the rings as seen in picture 18. With a pencil, mark the side where one edge overlaps the other under the rings. Take the card out of the rings and apply glue to the part that was hidden, and glue the piece up into the form of a tube, making it retain its circular shape. Glue together two of the six discs made from picture 15, and when they have set hard glue them into the bottom end of the tower we have made, as seen in picture 19. Glue one disc into the top end of the cylinder in the same way.

Take one of the pieces made of thin card or thick paper from picture 13, bend it around and glue it into the shape shown in picture 20, and then glue it on top of the cylinder we have made. Finally glue one of the rings made from picture 14 outside the cylinder near the top, just at the dotted line shown in picture 12. One tower is complete, and we proceed to make the other in exactly the same way. We have now two cylinders or towers with closed ends, with conical tops and with a gallery running right round near the top of each tower.

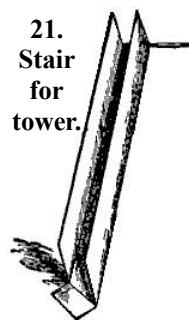


19. End of tower closed.

Take one of the pieces made of thin card or thick paper from picture 13, bend it around and glue it into the shape shown in picture 20, and then glue it on top of the cylinder we have made. Finally glue one of the rings made from picture 14 outside the cylinder near the top, just at the dotted line shown in picture 12. One tower is complete, and we proceed to make the other in exactly the same way. We have now two cylinders or towers with closed ends, with conical tops and with a gallery running right round near the top of each tower.

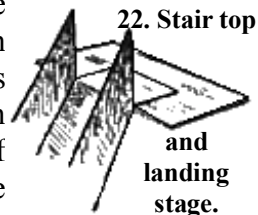


20. Cone top for tower.

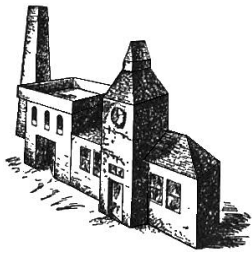


21. Stair for tower.

We have already made a piece from picture 16. We glue this piece, which forms a landing stage, to the rings on the two towers, as seen in picture 11, and then we glue to the middle of the landing stage the stairway or ladder that we made from picture 27. The stairway is seen ready to be fixed in picture 21, and the method of joining the stair and the landing stage is shown in picture 22. The pair of towers complete with the landing stage and the stairway by which it is reached are seen in picture 11.

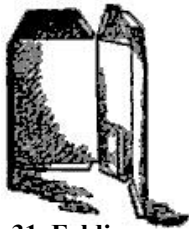


22. Stair top and landing stage.



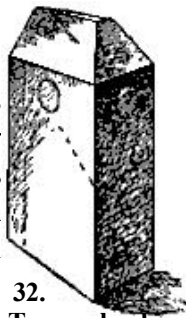
**23. Engine boiler and pump house.**

Pumps are necessary to force the gas through pipes, up into the scrubbing towers against a stream of water that washes it, and through other purifying houses into the great gasholders or gasometers that we know so well. The pumps require engines to work them, and the engines require steam boilers to supply the steam that gives them their power. For all these things some buildings must be provided, and there must also be a tall chimney to give a good draft for the boiler fires. This group of buildings is shown complete in picture 23, and we shall make it next.



**31. Folding up tower part.**

We make drawings from pictures 24, 25, 26, 27, 28, 29, and 30, making two of 29, but only one of each of the others. Picture 27 is actual size, so that we use the full-sized rule both to take the sizes from the picture and to make the drawing on the card; all the others are half-scale, so that we use scale-rule B to take our sizes when making drawings from them. We may draw four clock-faces within the four circles on picture 28. The high tower with the two low buildings seen on each side of it in picture 23 is the engine and pump house. The



**32. Tower glued up.**

building with the large tank on top is the boiler-house, and the tall chimney is at the far end of it. We shall shape and make the tower part first; it is the part made from picture 28. When being bent into shape it will be like picture 31, and when completely glued up it will be like picture 32. Then bend up, as shown in picture 33, the two side



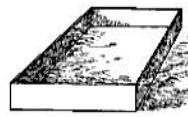
**33. Folding up side piece.**



**35. Top of tower.**

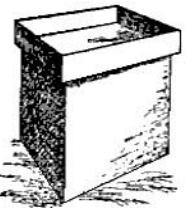
buildings made from picture 29. The tower part with the two side buildings will now look like picture 34. But there is still a top for the tower. The additional part we have already made from

picture 30, and we glue it to the top of the tower in the manner shown in picture 35. When we have done this the tower will be complete, as seen in picture 23.



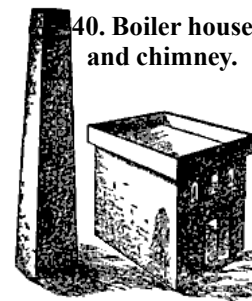
**37. Roof tank.**

The boiler-house is of very simple construction. The walls are formed of the part we have already made from picture 24. When bent and



**38. Boiler house and tank.**

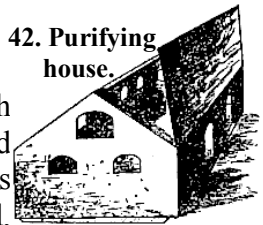
glued into shape it will be as seen in picture 36. The roof tank has been already drawn from picture 25, and cut out. When folded up and glued into shape it will look like picture 37; and when glued to the top of the walls the whole will be as seen in picture 38.



**40. Boiler house and chimney.**

The tall chimney was made from picture 26, and must be folded and glued into the shape shown in picture 39. We have already cut out a slip made by copying picture 27. This piece must be glued on round the chimney near its top, as seen in picture 40. We must now get a piece of strawboard of suitable size, and, using it as a foundation, glue to it the engine and pump house, the boiler-house, and the chimney — all in the positions seen in picture 23. Note that the chimney is not put right up against the boiler-house. Picture 40 shows the boiler-house and the chimney fixed down their proper distance apart. We have now completed this section of our gasworks.

From the pump-house the gas is forced through pipes to the purifying house, which contains large boxes filled with earth. The gas goes through this earth, and, leaving behind in the earth the sulfur that it contains, it passes to the large gasholders. We could make these purifying boxes, but as they would not be seen from the outside we shall make only the building in which they are contained. Its plan is given one-third scale in picture 41, so that we use scale-rule C in taking the sizes from the



**42. Purifying house.**

picture. It is a building with doorways but no doors, and with window-spaces but no windows. When being bent up and glued into shape it will be as seen in picture 42.

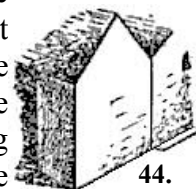


47. Front of shed.

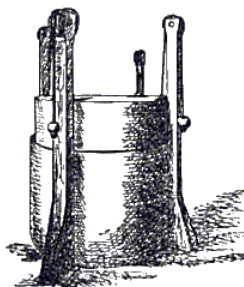
We now make an open shed — with a roof and side walls but no front — in which the earth for the purifying boxes may be stored. The plan of the shed is given in picture 43. It is half-scale, so that in taking the sizes for it we use scale-rule B. Notice the lines that must be half-cut and bent on the back of the card. When bent into shape the roof of the shed will be as seen in picture 44. The shed has closed ends, which we cut from picture 45, which is half-scale, requiring the use of scale-rule B for taking the sizes. We make two pieces like this, but one of them we half-cut and bend on the reverse side of the card. Now we glue the roof of the shed to the back of the purifying house, and we glue the ends of the shed into place, as seen in pictures 46 and 47. Picture 47 shows also two pillars in front. We have seen, in making the chapel and railway station, how to make pillars, so that it will not be necessary to give plans for the two pillars for the shed.



44. Shed roof.



44. End of shed.

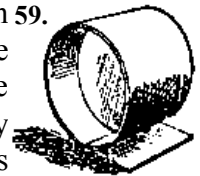


48. Gasholder.

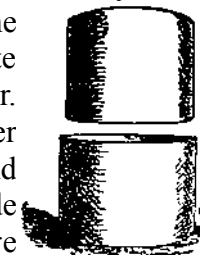
The last important part of the gasworks is the gasholder, which is seen finished in picture 48. It consists of an outside and an inside tank, the former fixed to the three upright pillars, and the latter working inside the former with the assistance of weights as shown. The bodies of the two tanks are made from pictures 49 and 50, both of which are half scale, so that we must use scale-rule B in taking the sizes from the pictures. They should be made on very thin card or thick paper, as they will then bend into circular shape more easily than they will if made of thick card. From thicker cardboard we make two discs from picture 51, two discs from picture 52, and one ring from picture 53. All

these three pictures are one-third scale, so that we use scale-rule C to take the sizes from the plans. We also make eight discs from picture 54, and eight from picture 55; both of these pictures are actual size, so that we merely trace each of them eight times on thick card, and then cut them out. Then we make eight pieces from picture 56, and sixteen from picture 57, both of which are half-scale and require the use of scale-rule B to take the sizes from the pictures. In making the pieces from picture 56, we half-cut and bend four of them on the back of the card. Finally, we make four pieces like picture 58, which is actual size, so that we can trace them. In bending these last pieces into shape we must notice that the half-cuts and bends are in each case on the back of the card.

We have now prepared all our material for the gasholder, and may now proceed to put it together. First, we glue together the two discs made from picture 51, so as to make one stout disc, and we glue together the two discs made from picture 52, so as to make another stout disc. Take the glued discs made from picture 51, and roll it up evenly inside the thin 59.



cardboard or paper shape made from picture 49, so the overlapping cardboard fall exactly together. This operation is illustrated in picture 59. Mark **Making the tank.** where the inner end falls upon the cardboard; glue the inside of the outer end from the pencil-mark to the end and roll the piece up again without the disc, holding it firmly until the glue has set. Now glue the disc we have been using into the end of the cylinder, by first putting a thin band of glue along the edge of the cylinder inside, and then by pressing the disc into position, so that it is quite level with the end of the cylinder. Now make the other cylinder which was cut from picture 50, and the two discs which were made from picture 52 and were afterwards glued together, to make one thick disc. We have now two cylinders with closed ends, as seen in picture 60, one of them being able to slip within the other.



60. Tanks completed.

Upon a piece of cardboard of suitable size we now glue down the larger cylinder by its bottom or closed end.



61.

**Upper bell with ring.**

The closed end of the upper cylinder is its top. With glue fix the cardboard ring made from picture 53 inside the upper or smaller cylinder, as seen in picture 61. The two cylinders are now complete. We have still to hang one into the other, so that it can rise and fall easily, and so that the upper cylinder will be so nicely balanced as to remain suspended at any position within the other.



62.

**Cord attachment.**

Upon the top of the larger cylinder or bell mark on the rim four points at equal distances apart. Bend up the four pieces made from picture 58, and glue them into the shape shown in picture 62. Glue them to the four points marked on the rim and into position as shown in picture 62. Now we shall make the pillars or guides as seen in picture 48. Take four of the sixteen strips made from picture 57 and glue them together face to face so as to make one very thick piece. Treat the other twelve pieces in the same way, thereby making in all four thick standards. To each standard glue two pieces made from picture 56, so that, when finished, we shall have four complete standards as in picture 63.



63.

**Standard.**

Now glue the four completed standards to the foundation board, making one standard exactly opposite each cord attachment.

We have already made eight discs from picture 54 and eight from picture 55. Take two of each and put a pin through the middle of all four, the two larger being at the outside, as seen in picture 64. Glue the faces of the inner discs and then press all four together, as seen in picture 65.



64.

The glue on the disc had **Making the wheels.**

better be allowed to harden while the discs are under pressure. If a copying press is convenient it may be used, but if not then a weight of books may be placed on the top until the glue is quite set. Treat the remaining small discs in the same way and we shall have four little flanged wheels. Get four circular wooden matches and cut off four pieces a little longer than enough to go from side to side of the pillars seen in picture 63. Make through the four wheels, right in the middle, holes large enough to take the wooden matches. Put the wheels within the tops of the standards and then put the cut-off matches right through the standard holes and the wheel holes. Tie a cord to each of the four cord attachments fitted to the top of the upper bell, and put the cords over the wheels. We have now only to provide the weights. Pierced shot such as is sold for fishing is the best sort of weights. It may be purchased at any fishing-tackle shop. We put one or more pieces on the free end of each cord so as to make the weights balance the rising and falling bell.



65.

**Wheel.**

It remains only to put the sets of buildings together and to paint them where painting is desirable. The gasholder and its pillars should be painted red; all the other buildings may remain white, except the tower of the engine-house and the roofs of the other buildings, which may also be made red. It would be a good thing to put a fence right round the gasworks. The designing of the fence we can leave to the little builders of Modeltown.





# PLAN FOR MODELTOWN GASWORKS, page 1

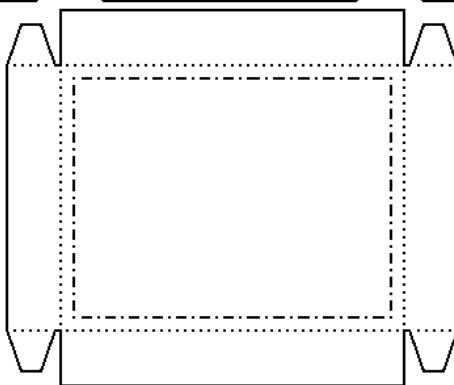
27.  
Plan for  
chimney band,  
actual size.



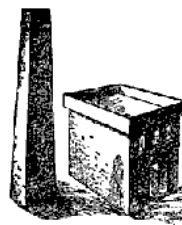
31, 32. Folding  
and gluing  
tower  
part.



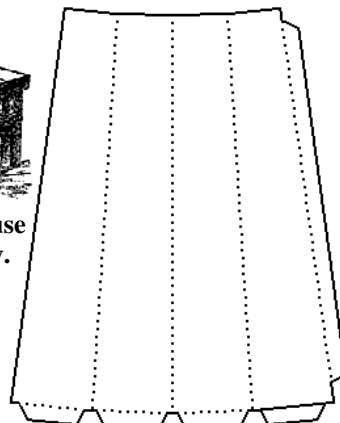
25. Boiler-house roof tank plan,  
half scale. Use scale rule B.



24. Plan of boiler-house, half scale.  
Use scale rule B.



40. Boiler-house  
and chimney.

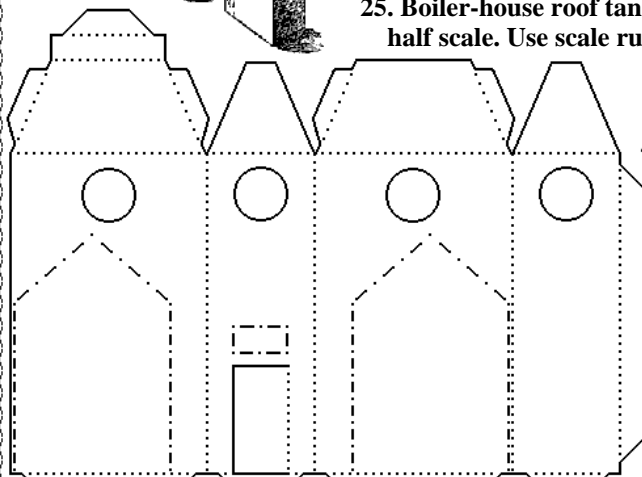


26. Plan of boiler chimney, half scale.  
Use scale rule B.

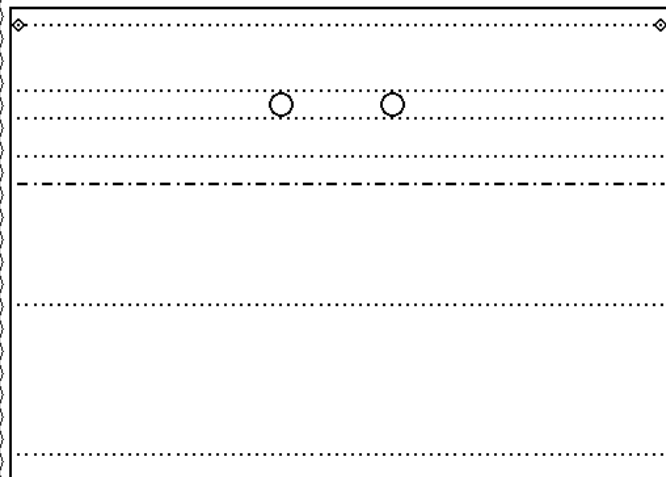
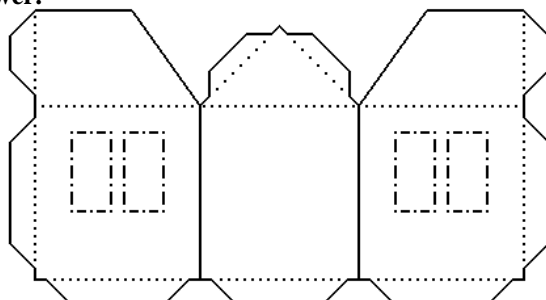
35. Top  
of tower.



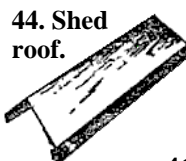
28. Plan of engine-house, half scale. Use scale rule B.



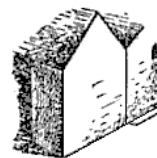
29. Plan of side buildings, half scale.  
Use scale rule B



43. Plan of shed, half scale. Use scale rule B

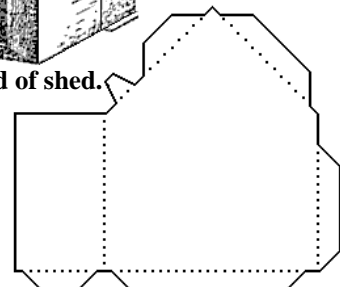


44. Shed  
roof.



33. Folding  
side building.

46. End of shed.



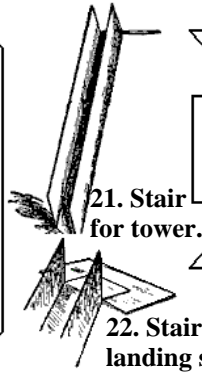
45. Plan for end of shed,  
half scale. Use scale rule B



47. Front of shed.

# PLAN FOR MODELTOWN GASWORKS, page 2

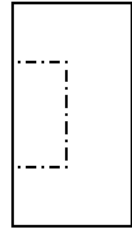
4.  
Plan of  
retort-  
house  
interior  
end piece,  
half-scale.  
Use  
scale rule  
B



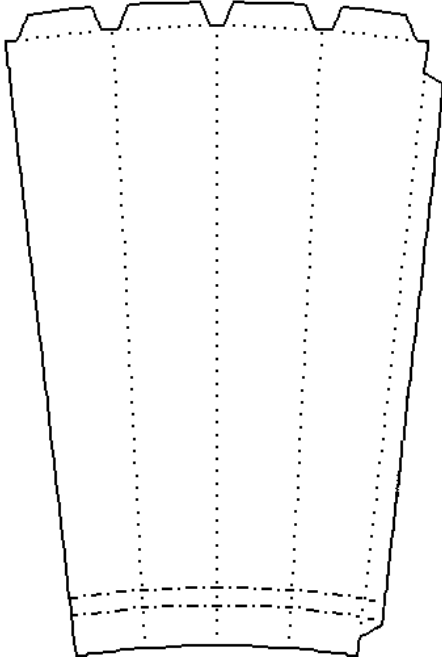
21. Stair  
for tower.

22. Stair-top and  
landing stage.

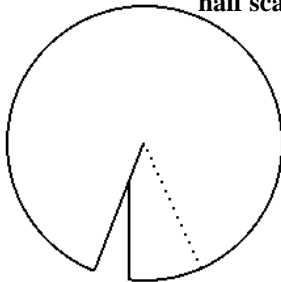
17. Plan for tower stair, half scale. Use scale rule B



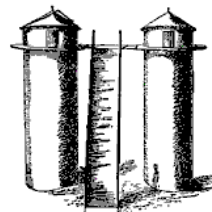
16. Stair,  
half scale.  
Use scale rule B



5. Plan of retort chimney,  
half scale. Use scale rule B



13. Tower top, half-  
scale. Use scale rule B



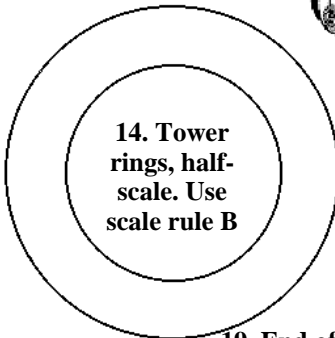
11. Washing and  
scrubbing towers.



18. Making  
a tower.



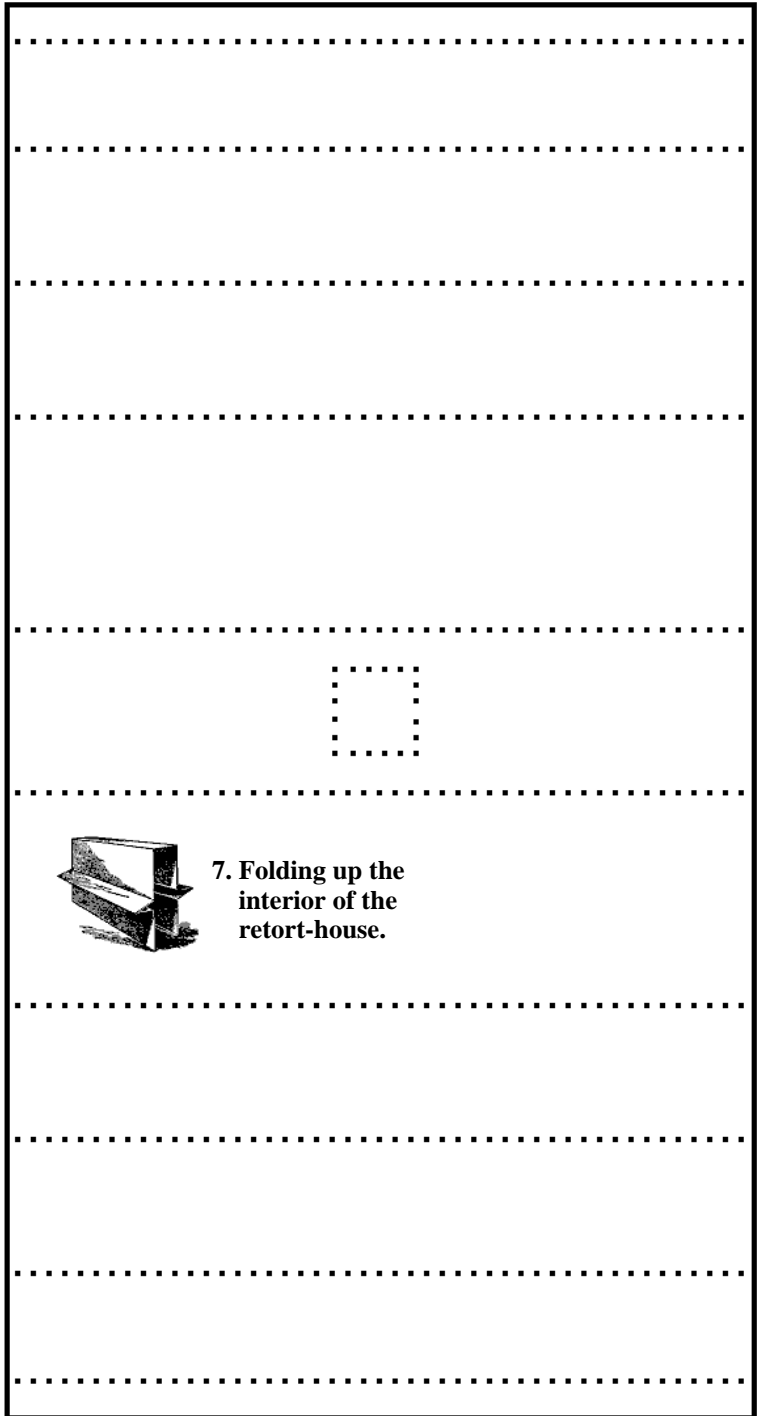
20. Cone-top  
for tower.



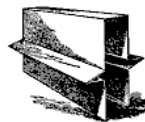
14. Tower  
rings, half-  
scale. Use  
scale rule B



19. End of  
tower closed.



2. Plan of retort-house interior, half scale. Use rule B



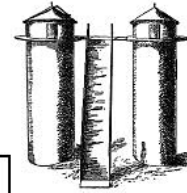
7. Folding up the  
interior of the  
retort-house.



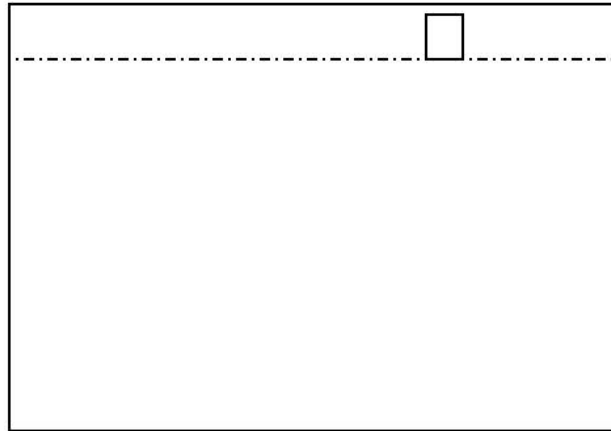
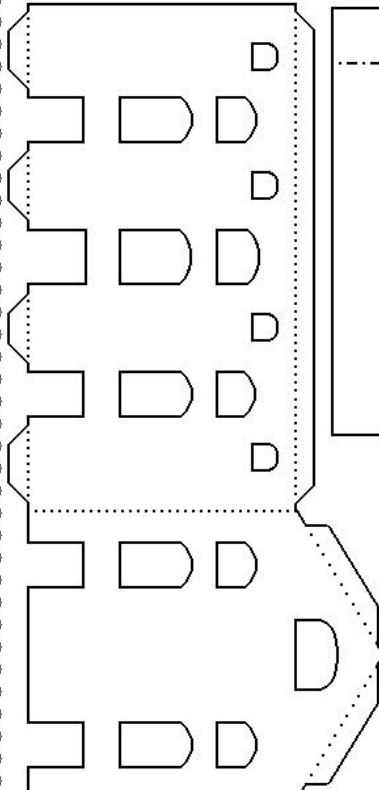
# PLANS FOR MODEL TOWN GASWORKS, page 3



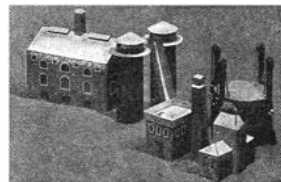
9. Folding walls of retort-house.



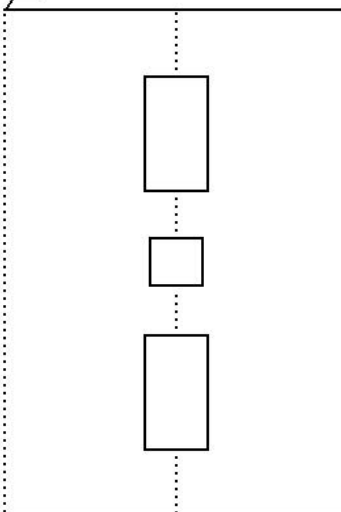
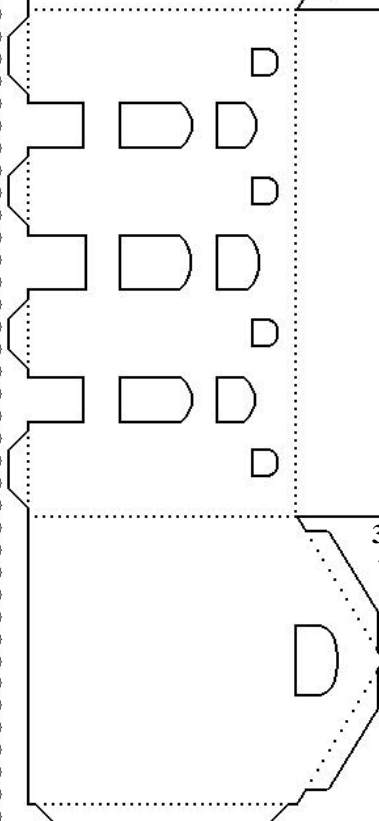
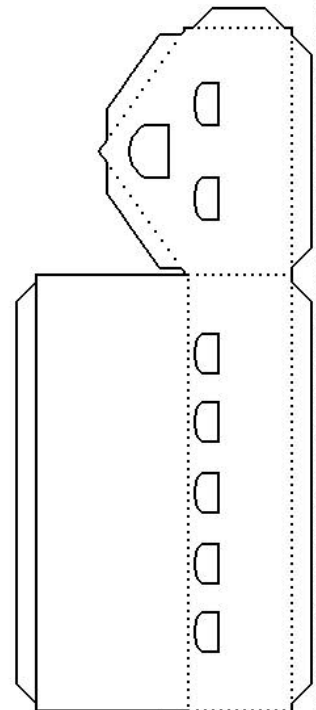
11. Washing and scrubbing towers.



12. Body of washing and scrubbing tower, one third scale, Use scale rule C

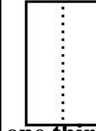


Modeltown Gasworks photograph



3. Plan of retort-house walls, one third scale. Use scale rule C

8. Retort-house ventilator,



one third scale. Use scale rule C



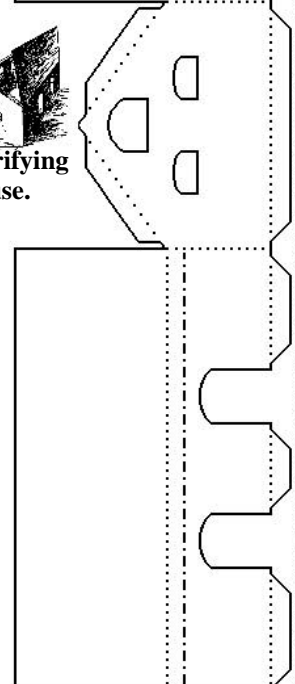
42. Purifying house.



10. Retort-house ventilator.

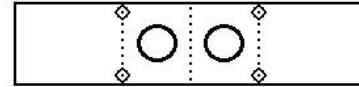
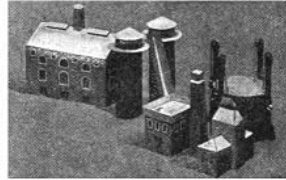


8. Retort-house chimney. [See picture 5 for plan]

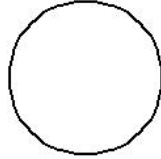


41. Plan of purifying house, one third scale. Use scale rule C

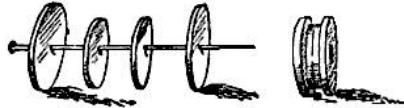
# PLANS FOR MODEL TOWN GASWORKS, page 4



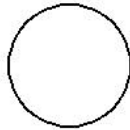
58. Cord attachment, actual size. 62. Cord attachment.



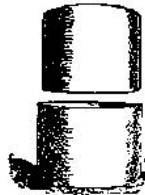
54. Wheel disc, actual size.



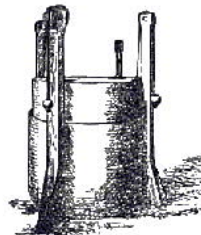
64. Making the wheels. 65. Wheel.



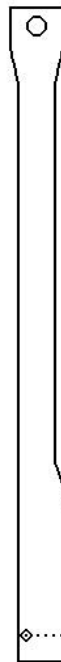
55. Wheel disc, actual size.



60. Tanks completed.



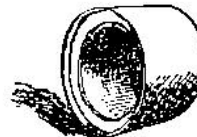
48. Gasholder.



56. Plan of standard, half scale. Use scale rule B

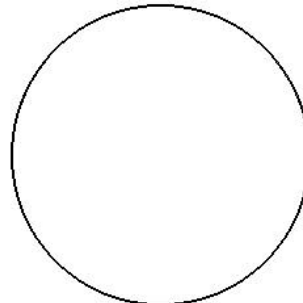


63. Standard.

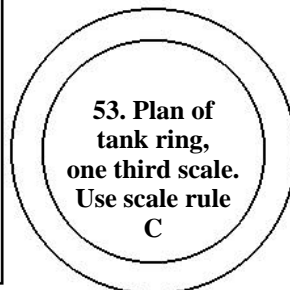


61. Upper bell with ring.

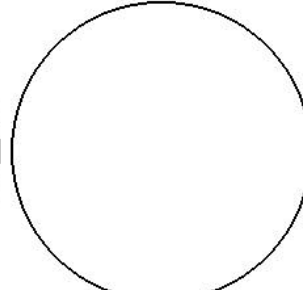
57. Plan of slip for standard, half scale. Use scale rule B



↑ 50, 52. Plan of tank ends, one third scale. Use scale rule C



53. Plan of tank ring, one third scale. Use scale rule C

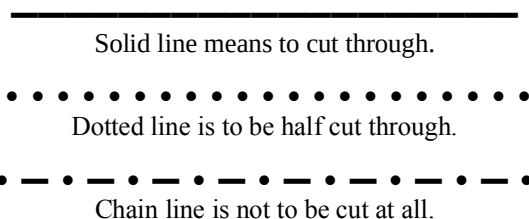


49. Plan of tanks, half scale. Use scale rule B

50. Plan of tanks, half scale. Use scale rule B

### Excerpt from "PREPARING FOR MODEL TOWN"

Only one other thing is to be explained before setting to work. In the plans we shall print for making cardboard models and other articles, three kinds of lines will be used. To be quite clear, we give examples of them below:



The first is an ordinary solid black line, and whenever we find this line in a plan it means that the cardboard is to be *cut clean through* at that place, and any cardboard detached by the cutting is to be removed.

The second is a dotted line, and whenever that kind of line is used in a plan it means that the cardboard is to be *cut half through*. We have to cut half through the dotted lines because we bend *back* the cardboard where they are drawn, and if we did not make a cut the cardboard would crack in bending and leave a rough, ugly edge.

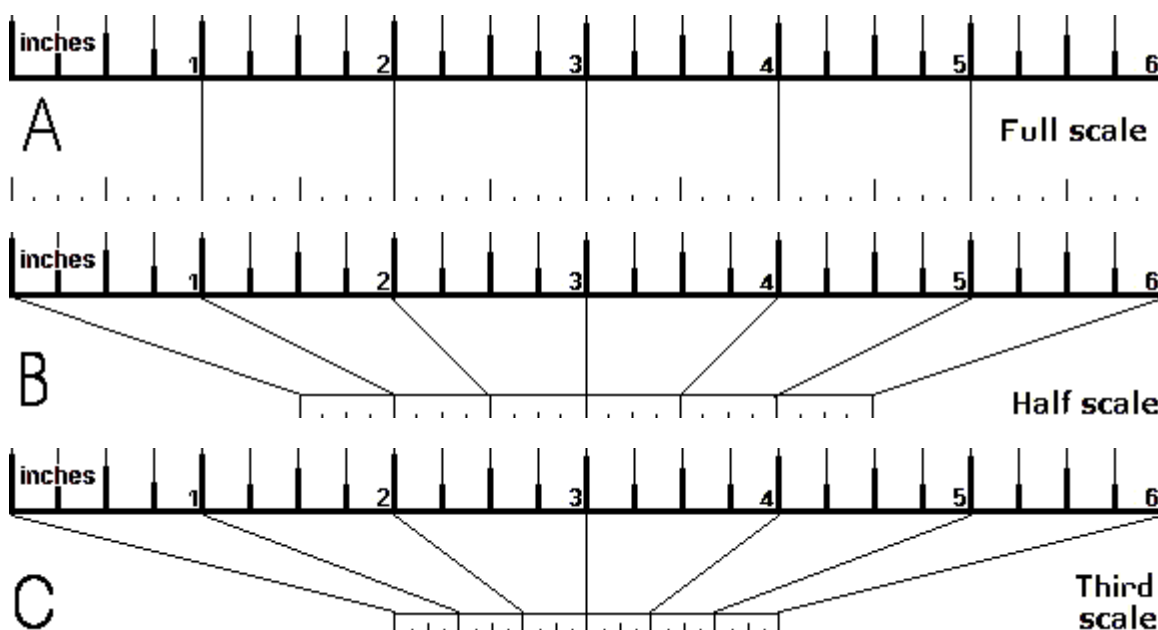
The other is a dash-and-dot line (it is called a chain line). Where this line is drawn we *do not cut the cardboard at all*. This chain line is only intended to show us where the windows and doors come and where the chimneys and other things are to be fixed; it is a guide to the places where other parts join on.



### Excerpt from "MAKING THE CHAPEL FOR MODEL TOWN"

#### 17. Shaping a pillar round a pencil.

We now make neat round columns, or pillars, one for each side of the front door. ... The columns proper, which go between the top and bottom pieces, are made round by bending them round an ordinary lead pencil. First we draw and cut out twice the plan in picture 16, to give us two columns. The picture is half-scale, so that we use scale-rule B to take our measurements, and the full-sized rule to make our lines on the card. Picture 17 shows the pillar being bent round the lead pencil. The card must be folded round the pencil tightly, and the last half-inch or so, where the card goes over itself, must be glued so as to make a tiny tube. We must be careful, however, to see that no glue goes on the pencil itself, or we should not be able to withdraw it afterwards. When the glue has set, we take out the pencil, which should be easily done. There would be no harm in leaving the pencil in the pillars if we cut it off so as to be the exact length of the card-board covering. We glue to the building the four small pieces which we made from the plan in picture 14. Their position is seen in picture 1. Then we put a little glue on the ends of the two pillars that we have made, and slip them into their proper places, as shown also in picture 1. That completes the structural part of the front.







**Modeltown  
an English Village**

**18. FINISHING MODELTOWN**

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**Description**

**page 171**

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**References**

*Children's Encyclopedia.* (1910). v. 7, pp. 4673; [www.hathitrust.org](http://www.hathitrust.org)



## FINISHING MODELTOWN

It is some time since we made any new buildings to add to Modeltown. The last building we made was the gasworks. We could go on indefinitely adding building to building until we made a town larger than it would be convenient to have in our homes. So far, we have had detailed plans showing us exactly how to make the different parts, how to cut them out, and how to glue them together so as to make the completed building.

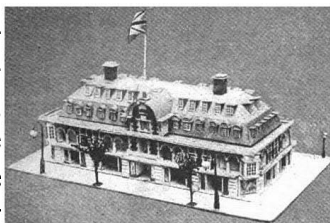
If we have made all the buildings, or even a considerable number of them, we ought to have become rather expert at the work of cardboard modeling. But, after all, we have only followed instructions and plans up to now. There is, however, a much higher ability than this. There is the ability to think out things for ourselves and to invent. It is by thinking out things for themselves that men are able to rise to eminence and to win success. Therefore, instead of having detailed instructions about more Modeltown buildings, we must try to work out plans for ourselves.



**Beautiful Modeltown Cathedral.**

but we may as well choose the simplest, and attempt the more difficult buildings afterwards.

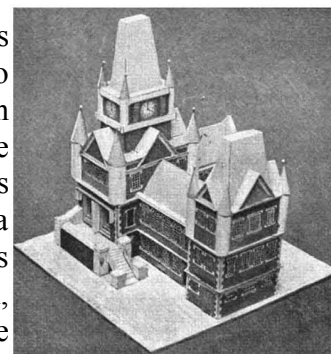
Let us provide ourselves with a drawing-block and a lead pencil, and then draw the different sides of the building one after another as best we can. The results may not be very good, but that should not discourage us. No one does anything perfectly the first time he tries. When we have made our sketches, the more difficult part of our work is to come. We try then



**Modeltown's wonderful department store.**

to draw the various parts in the form of plans, so that these plans, when cut out, will fit together so as to make a model of the actual building.

In making these plans we should try to preserve the proportion in size between the various parts. To help us to do this we may use a measure or rule, as this will help us very much, or we may step the distances along the



**How Modeltown Town-Hall should look.**

walls so as to know the lengths of the walls. We can take the height of the buildings by the ingenious method used to measure a tree, and described in "Measuring the Height of a Tree". Then we should start making our actual model, cutting it out as we go along, and seeing that the parts fit together. We may have to make some of the pieces several times over, as we shall probably find as we proceed that we have overlooked a point in those we have already made, and have not made them so that they will fit adjoining parts. We should not mind this much; we are gaining experience all the time, and every new building we try will be easier to make than the one before.

If we happen to live in London and can visit the Crystal Palace, we can there see the actual Modeltown, made with more buildings than have been given in the *Children's Encyclopedia*. It is in the gallery at the side of the great organ, and is the first object seen after entering Holiday Court. Of the extra buildings in Modeltown, three are illustrated on this page — the town-hall, the department store, and the cathedral.

Perseverance and strict attention to all the various details of our models will enable us to present a finished building which will amply repay us for the time and trouble we have taken. We should always remember that "a thing worth doing is worth doing well."







**Modeltown**  
**an English Village**

**19. MEASURING THE HEIGHT OF A TREE**  
**[From another part of Things to Make and**  
**Things to Do and mentioned in a**  
**Modeltown article]**

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**Description**

**page 175**

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*Book of Knowledge*. (1911). v. 8, p. 1927; <https://archive.org/details/TheBookOfKnowledge8>  
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## MEASURING THE HEIGHT OF A TREE

There is a very easy way to measure the height of a wall, or a tree, or a church spire, that any boy or girl can use if he or she can do a sum in simple proportion. It is necessary that the sun should be shining at the time — that is all. Suppose that we have a tree, and the sun is shining, then the shadow of the tree is cast on the ground. We must measure the distance from the extreme point of the shadow to the place right under the top of the tree. If the top point of the tree is right above the middle of the trunk, then we must calculate half the diameter of the trunk in making our measurements. Suppose that the distance from the point of the shadow to the trunk of the tree is 40 feet, that the tree is 2 feet thick, then the total distance is 41 feet (40 feet plus half the diameter of the tree).

Now we take a stick, of which we know the exact length. Suppose that it is 3 feet long. We hold this upright with one end on the ground and notice how far its shadow extends. Then we measure the length of the stick's shadow, and perhaps find that

it is 6 feet long. Now we multiply the length of the tree's shadow (41 feet) by the length of the stick (3 feet), and divide by the length of the stick's shadow (6 feet). The answer we get is  $20\frac{1}{2}$ , and we know that the tree is  $20\frac{1}{2}$  feet high.



The height of a tree shown by its shadow.

If we get odd inches in our measurements, we can work the sum out in inches instead of in feet. We can also get the answer — though not quite so correctly — by seeing how many steps it takes to go from the edge of the shadow to the tree, being careful to make our steps as nearly uniform as we can.

Then, by measuring the length of one step, we can multiply its length by the number of steps, and find the distance.

But in any measurement, whether it be a tree, or a church, or a wall, we must make sure that we take the distance to a point immediately under the highest point, so that if it be a church spire, for instance, we must make allowance for the distance between the wall up to which we measure and the center of the church tower.





**Modeltown**  
**an English Village**

**Notes About This Publication**  
**References**

**page 179**  
**pages 179-180**

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## Notes About This Publication

This book has been derived from selections of the very early editions of the *Book of Knowledge* and the *Children's Encyclopedia*.

Additional “Things to Make and Things to Do” activities may be included if they were mentioned in the text of the Modeltown projects.

The text in this book has been changed slightly from the originals.

1. Spelling, where appropriate, has been changed to American forms.
2. Any mention of the specific cost of materials has been deleted.
3. Comments by the current editor may be indicated by square brackets, [ ], in text or an asterisk, \* for footnotes.
4. All text and images have been reformed from the original versions and the layout has been adjusted to fit 8 ½ x 11 inch paper. Each image has also been manipulated for clarity.

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**[Part 2] Continuing Modeltown farm.**

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**[Part 3] Completing Modeltown farm.**

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**14 Modeltown railway station**

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**[Part 2] Finishing Modeltown railway station.**

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